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The Journal of the Fire Protection Profession Since 1877

Vol. 85, No. 8 AUGUST, 1932 Member A.B.C.-A.B.P.

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FIRE ENGINEERING

The Journal of the Fire Protection Profession Since 1877

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Fight If You Must

THERE'S real sound common sense in the following statement recently made by an important business leader:

● **"No industry and no class of individuals engaged in any enterprise in America is living through such a difficult period as that of public officials.**

"The whole concentration for relief of the depression seems to be centered upon the expenditure of public funds. In this frenzy to criticize public officials and to curtail public expenditures there seems to be an utter disregard for the value of properties that belong to the public. At no time in the history of the country have public officials had an opportunity of showing more courage and rendering a greater service to the people generally than they have now by courageously and fearlessly discharging their duties in safeguarding public properties."

● When it comes to fire protection, nobody knows better than the fire chief what his city needs. If he fights hard enough, with righteousness at his side, he can come pretty close to getting those needs fulfilled, regardless of any curtailment or economy programs.

● —And who doesn't relish a good fight?

The Publishers

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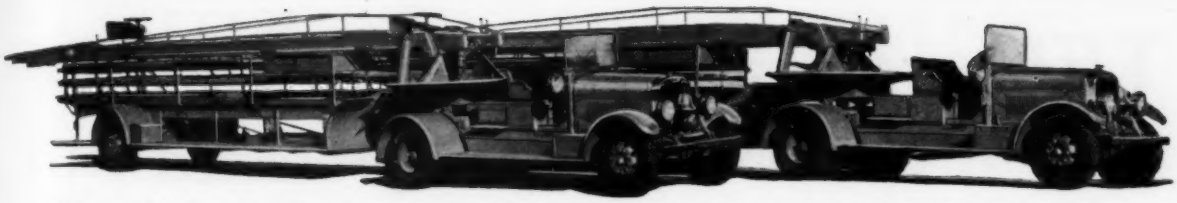

Minneapolis, Minn., Fire Department aerial trucks equipped with Goodyear All-Weather Tread Balloon Truck Tires

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TEN SPRINKLERED PROPERTIES AT GARDNER, MASS. *protected by* GAMEWELL *SPRINKLER WATCHMEN*

Sprinklered properties are generally your largest taxpayers—the main support of your city and your fire department. A serious fire loss in any one of these properties not only throws other taxpayers out of work, but, more important to you, it causes a loss to the city in taxable revenue, and that means less money for fire department needs, firemen's salaries, etc.

Chief Robert M. Tappin of Gardner, Mass. has safeguarded against this by getting the sprinklered property owners to install Gamewell master fire alarm boxes—SPRINKLER WATCHMEN—connected to their sprinkler systems, making every sprinkler head a fire department nerve. You should do likewise in your own city.

CITY OF GARDNER
HEADQUARTERS FIRE DEPARTMENT
5 LAKE STREET

ROBERT M. TAPPIN
CHIEF

GARDNER MASS. July 21, 1932

The Gamewell Company
Newton, Mass.

Gentlemen:

Upon my recommendation three years ago, ten business concerns here in Gardner each installed a Gamewell master type municipal fire alarm box connected to its sprinkler system so as to send an alarm direct to our municipal fire department in the event a sprinkler head should open for a fire or accidentally.

These sprinkler alarm connections which you call the "Sprinkler Watchman", have been very satisfactory. On one occasion we received an alarm from the master fire alarm box at the Gardner News Building where there was a water flow, caused by a freeze-up in the sprinkler system. Another alarm was received from the "Sprinkler Watchman" at the Gardner Trust Building, which operated when excessive heat in the boiler room melted a sprinkler head. In both cases we responded immediately and kept the water loss down to a minimum.

Since the installations were made, we have not been obliged to make any repairs to the equipment, and other maintenance has amounted to almost nothing, beyond a periodic inspection such as we give to all of our regular municipal fire alarm boxes.

Not one false alarm has been received to date from any of these ten master boxes.

I am a strong advocate of a direct tie-in between private sprinkler systems and the municipal fire department thru the Gamewell master box. It gives us a chance to reach a fire before it gets too big to handle easily. And, it gives us a chance to cut down water damage too -- because a dollar lost from water damage is no different than one lost from fire. Fire chiefs in other cities will make no mistake in recommending this hook-up to the owners of sprinklered properties.

Having seen your recent advertising on the "Sprinkler Watchman", I thought you would be interested in our experience here.

Yours very truly,

Robert M. Tappin

CHIEF, FIRE DEPARTMENT

The Gardner Trust Company (left)—protected by a Gamewell SPRINKLER WATCHMAN is typical of the buildings that should be so protected in every city.

THE GAMEWELL COMPANY
NEWTON, MASS.
"A Box a Block"

FIRE ENGINEERING

The Journal of the Fire Protection Profession

Volume 85 AUGUST, 1932 Number 8

With the Editor

The San Diego Convention

The Sixtieth Annual Convention of the International Association of Fire Chiefs, to be held at San Diego, California, is but a little more than two months away.

Probably no meeting ever held by the Association was faced with problems as big as will be this year's convention.

The depression has brought forth a huge crop of fires of questionable origin, and before things are back to normal the situation will probably be even more severe.

Never was a meeting of the Association more needed than this year; never has there been greater need for an exchange of ideas on handling fire protection problems.

From the standpoint of the Association itself, it is imperative that the meeting take place. Were the convention called off, as was suggested by some of the members earlier in the year, the Association could well be accused of lying down on the job just when faced with the most important work ever brought before it. Furthermore, a cancelled convention results in a loss of membership, decrease in interest on the part of members and a feeling of lack of confidence among those who have worked hardest for its success.

There should be no apprehension as to the success of this year's meeting. The local committee at San Diego has already raised the necessary funds for putting over a most successful convention, and there are plenty of timely and pressing subjects deserving discussion to make up an excellent technical program.

Furthermore, the work of the Association has progressed steadily since the Havana meeting and real accomplishment will be shown when it meets at San Diego.

There is much work to be done this year at the Convention, and from which much good may be expected to come. Cities which have been hit by the depression, and these number practically all of the larger municipalities in this country, cannot afford to deny their Fire Chiefs the privilege of going to San Diego. The fire protection problem has taken an added importance this year and will probably remain so during next year. Many Fire Departments are successfully combating the increasing tendency toward incendiary fires, and the pooling of information by the members at San Diego should result in the development of effective methods of checking this dangerous trend.

Make your plans now to go to the Pacific Coast city in October and count upon a business-like convention with plenty to do and plenty to learn.

Fred. Sheppard

Bonfire Under Coney Island Boardwalk Results in

Big Amusement Resort Fire

By WM. JEROME DALY

A BONFIRE made by bathers on the sandy beach of Coney Island, New York, beneath the boardwalk of that famous old resort, resulted in approximately $2,000,000 damage before it was finally controlled by one of the largest contingents of fire fighters and fire apparatus ever summoned for a summer resort blaze.

The fire occurred at 3:27 o'clock on the afternoon of July 13, and before it was stopped, it involved 1,000 feet of the boardwalk, 37 brick and frame dwellings of more than three families, 51 dwellings of not more than two families, 34 buildings or structures containing stores or concessions, 11 bathing pavilions, one hotel, two auto service stations and one laundry, making a total of 137 premises. There were 49 stores involved in the 137 buildings—8 candy, cigars and stationery, etc.; 2 shooting galleries, 8 restaurants, 2 auction bazaars, 2 milk stands, 5 side shows, 5 groceries, 2 butchers, 2 soft drink stands, 2 shoe repairers, 1 bowling alley, 4 real estate and law offices, 1 drug store, 1 laundry, 1 tailor, 1 barber, 1 novelty shop and 1 artist's studio.

Great Area of Fire

The area embraced by the fire extended along the boardwalk from 25th Street to 21st Street and from the boardwalk northerly to Surf Avenue. The boardwalk lies east and west. The fire was first seen in a pile of rubbish under the boardwalk between 22nd and 23rd Streets. It has been definitely established by competent witnesses that the fire when first observed was not taken seriously by those who saw it as it has been a habit for some time to make bonfires under the boardwalk, either to dispose of refuse discharged by the concessionaires and shack owners, or for the purpose of warming the chilly atmosphere for thin blooded bathers. When the bonfire was seriously noticed, some bathers threw handfuls of sand on the flames, but nobody evidently thought to pull the fire alarm box.

The Burned Boardwalk at Coney Island and the Wreck of Buildings Bordering on It

High Wind Spreads Fire

The strong wind from the southeast caused countless embers to fly, thus extending the fire to the tinder structures that make so many summering places a hazard. The point along the boardwalk where the fire was first observed was dotted with the very character of construction that makes quick fuel. Somebody then snapped the alarm box nearby, bringing three pumpers, two trucks and the Chief of the 43rd Battalion—Bernard Rasmussen. The firemen were hampered by an untold number of parked automobiles, most of them locked. In nine minutes (at 3:36) the second alarm was transmitted, bringing three more pumpers, one truck and the Chief of the 12th Division. The third alarm at 3:44 brought three pumpers, a truck, a Battalion Chief, a gasoline fuel wagon and rescue No. 2. The fourth alarm at 3:53 brought four pumpers, a truck and the department ambulance. On this alarm, Patrick Walsh, Acting Chief of Department in the absence of Fire Chief McElligott, responded from Fire Headquarters in Manhattan. Fire Commissioner John J. Dorman also responded. The fifth alarm at 3:57 brought four pumpers, and a truck.

Coney Island has had high pressure fire service since the Dreamland Amusement Park fire of 22 years ago. The recent fire had pretty much its own way and crossed the street at will, driving the firemen back and burning the high pressure hose off the hydrants, thereby causing a serious loss of pressure which so weakened the system that for a time Chief Walsh was in a quandary.

Help Summoned from Manhattan

At 4:44, Chief Walsh ordered help summoned from Manhattan, some of the companies making the run of 25 miles. The call had the effect of summoning to Coney Island 14 engine companies, four truck companies, rescue 1 and two Battalion Chiefs ordinarily assigned on first, second and third alarm at Frankfort Street and Park Row, near the entrance to the Brooklyn Bridge. At 5:05 o'clock, Chief Walsh ordered a fifth alarm for the Park Row box, bringing to Coney Island from Manhattan, 11 engines and two trucks additional.

Realizing that he had a desperate struggle on his hands, Chief Walsh specially called a fireboat, to avail himself of sea water. Fire Chief John J. McElligott was reached about this time. He was on his regular day off and was golfing, but upon learning of the situation at Coney Island he called for his car and reached the scene at 6:45 o'clock. Chief McElligott ordered the escaping high pressure shut down and then used pump-

ing engines to relay water from the low pressure service into the high pressure mains. This was also resorted to with the help of another fireboat.

At 10:30 o'clock, special calls for extra men only were sounded. The entire department had been held on full duty since 6 o'clock, the re-call of the off-platoon having been sounded at that hour. The release of the off-duty platoon was ordered at midnight when the fire was declared to be under control.

Number of Officers and Men Engaged

There were 68 officers and 379 firemen actually engaged in the fight. Five officers and 55 firemen were summoned without apparatus. There were 43 engine companies, 12 truck companies, two rescue companies, two gasoline fuel trucks, one searchlight apparatus, two fireboats and the department ambulance at the fire. The automatic covering up system provided for the movement of 29 engines and 15 trucks to take care of uncovered districts, making a total of 72 engines, 27 trucks, two gasoline wagons, two rescue companies involved in the fire, either actually at the scene or on location. Despite the common impression that the fire and its extraordinary alarms stripped the department, it is a fact that only 13% of the department's total engine companies and 6% of the total truck companies were at the scene and therefore not available for other fire duty. This does not include fireboats.

Thousands of bathers lost their clothing in the fire—one man sustaining a loss of hundreds of dollars in paper currency which he had hidden in his shoe. Scores of automobiles were burned up, one of them the official car of the first due Battalion Chief, who after seven hours of unceasing effort, finally had to be carried to a hospital. There were 89 members of the department treated by the Fire Department doctors.

Urged Extension of High Pressure Service

For many years the Fire Department has been urging in its annual reports the improvement and extension of the high pressure fire service. Three years ago, the Fire Commissioner opened a new fire house at Neptune Avenue and 25th Street, Coney Island, for Engine 318 and Truck 166. In February, 1927, the engineers of the New York Board of Fire Underwriters made a survey of Coney Island and the Secretary of the committee, William B. White, was at that time quoted in a newspaper interview to wit: "At present the fire fighting force on Coney Island is woefully undermanned, both as to personnel and apparatus. More men are needed at once. It has been evident for a long time that the high pressure system on Coney Island was inadequate. An appropriation of $400,000 has been made by the City for the erection of a new high pressure station.

"This much needed improvement should be pushed to completion at the earliest possible date." The principal recommendations made by the Underwriters at that time were as follows: "Properly man Engine Companies 244 and 245 by assigning to each platoon an officer and eight men; equip Engine Companies 244 and 245, each with a motor aerial truck, manned by an officer and six men; establish an additional engine company near the Sea Gate section (this has since been done) as called for by the increasing population."

The water supply and service, both high and low pressures, are under the jurisdiction and control of the Department of Water Supply, Gas and Electricity.

An additional illustration showing this fire at its height will be found on the cover of this week's issue.

Insignia for Department Officers

The regulations of the New York Fire Department have been amended with regard to insignia of rank, to read as follows:

Chief of Department—Gold plated metal, with five trumpets measuring one and five-sixteenths inches each in length, crossed, with bells outward and projecting beyond mouthpieces, so as to form a design one and one-half inches in diameter. Coat insignia will be worn one-half inch above the lower edge of collar in center.

Deputy Chief of Department—Same as Chief of Department, except there shall be three trumpets, crossed, with bells downward. Coat insignia will be worn same as Chief of Department, with bells of trumpets pointing downward.

Chief of Battalion—Same as Chief of Department, except there shall be two trumpets, crossed, with bells downward. Coat insignia will be worn same as Chief of Department, with bells of trumpets pointing downward.

Captains of Engine Companies—Chrome plated nickel silver, with two trumpets one and five-sixteenths inches long, placed parallel with bells downward and close together, oval in shape, two and one-half inches long and one and five-eighths inches wide. Coat insignia will be worn the same as Chief of Department, with bells of trumpets pointing downward. Cap insignia to have the number of the company, in raised figures, midway between the trumpets, which are to be placed three-eighths of an inch between bells.

Captains of Rescue Companies—Same metal, size and shape as for Captains of Engine Companies, except that a smoke mask shall be located in the center between two life guns, with barrels of guns pointing upward, roof rope and reel above helmet and life line and slug located below helmet. Coat insignia will be worn the same as Chief of Department, with barrels of life guns pointing upward. Cap insignia to have the number of the company on the breathing bag of the smoke helmet.

Captains of Hook and Ladder Companies—Same metal, size and shape as for Captains of Engine Companies, except that two upright axes parallel with each other, with the blades facing each other, shall be used in lieu of the trumpets. Coat insignia will be worn the same as Chief of Department, with blade end of axes upward. Cap insignia to have the number of the company, in raised figures, midway between the axe helves, which are to be placed three-quarters of an inch apart.

Lieutenants of Engine Companies—Same metal and shape as for Captains, except that there shall be only one trumpet. Insignia to be one and three-quarter inches long and one and five-sixteenth inches wide. Coat insignia will be worn the same as Chief of Department, with bell of trumpet outward and carriers upward. Cap insignia to have the trumpet placed horizontally with the bell to the left and the number of the company above the center.

Lieutenants of Rescue Companies—Same metal, size and shape as for the Captains, except that there shall be only one life gun placed horizontally to the rear of the headgear of the smoke helmet, with barrel of life gun pointing to the left. Coat insignia will be worn the same as Chief of Department, with barrel of life gun pointing to the left. Cap insignia to have the number of the company the same as for Captains.

Lieutenants of Hook and Ladder Companies—Same metal, size and shape as for the Lieutenants of Engine Companies, except that there shall be one axe. Coat insignia will be worn the same as Chief of Department, with axe in horizontal position and edge of axe downward. Cap insignia shall have one axe placed horizontally, the blade to the right and the number of the company above the axe.

Fire Fighting Apparatus Developed in England

A special trailer has been designed which carries a series of cylinders filled with carbon dioxide gas for fighting oil and other fires which cannot be extinguished by water. The trailer can be towed behind motorized apparatus. The photograph was taken during a test at Raling, England.

The Fire Service Instructor

The second installment of a treatise to aid those responsible for training men in the fire service to develop a systematic type of teaching.

By O. D. ADAMS,
State Director for Vocational Education in Oregon, and Prof., Industrial Education, Oregon State College

and

EDWARD L. BOATRIGHT,
Battalion Chief, Portland, Ore., Fire Department, and Director, Portland Fire College

Chapter II
The Instruction Process
Common Kinds of Teaching

AS has been stated before, vocational education is concerned in "learning by doing." In keeping with this philosophy, we are to learn to teach by teaching, first, one of the more simple jobs in the fire service, let us say, "The Construction, Use and Importance of the Fire Helmet." The average fire Captain spends very little time in instructing his subordinates, more especially the new men, in "The Construction, Use and Importance of the Fire Helmet." Usually, the job is considered completed when taught in somewhat the following manner:

"Now, Bill, you're going to have use for this helmet. Wear it at all times. It's a good thing to keep where you can grab it easily, or on the rig. You wear it like this (demonstrating), by putting it on as you ordinarily would wear your hat, and in case the fire gets too hot, turn it around backwards to protect your face from the heat."

In the above, you will note that undoubtedly the untrained man will learn something about his helmet, but how much? In using any method of instruction, care should be exercised in making the steps of the instruction clean-cut and the talking (lecture) short, to the point, concise and simple. Demonstration means to demonstrate, to show how the job is done. The complete "job" was not taught in the above lesson. It is comparatively easy to teach a lesson of this kind, but even this kind of teaching becomes more complicated in such lessons as "The Use of a Safety Belt" or "How to Rescue a Person From a Burning Building."

It would be quite possible to "put over" a lesson on "Why Use a Fire Helmet?" by the use of photographs, charts, blueprints, sketches or moving pictures, that would be highly satisfactory. The following pictures will illustrate what is meant by this kind of teaching:

1. On Head, as Ordinarily Worn

2. With Back in Front

3. Breaking Glass

To make it complete, it is necessary to include, usually, some information by way of talking or by use of captions near the pictures which is the lecture method again, in combination with illustration, which is sometimes too expensive to use.

The lecture method (talking) alone is one of the poorest and least effective of all teaching methods, as it gives little opportunity to the learner to think for himself. This, however, is the usual procedure among foremen and others in positions of supervisory responsibilities in unorganized instruction, and I presume to say that fire Captains made the same mistake at times. For instance:

"Now, boys, we have here one of the helmets the regulations require us to use, and the Chief has passed the word around that every man at a fire must wear the helmet. You wear it as you would your hat, so that the long part at the back will keep the water out of your neck. In case the fire gets too hot, you can reverse it to protect your face. Now, I guess that's all there is to it."

All these cases may seem to be more or less exaggerated, but they represent actual conversations in lessons taught and are illustrative of the usual procedure in teaching new firemen. What is the trouble with this kind of teaching? First, the matter to be presented in the lesson was not clearly outlined. Second, while it is somewhat effective, the importance of wearing the helmet has not been sufficiently stressed so as to "fix" it in the mind of the new untrained man. Third, lessons taught in this slip-shod manner give the impression that it isn't of much importance anyway.

Using a Systematic Instruction Method

Let us see what can be done with this lesson "The Construction, Use and Importance of the Fire Helmet."

Step I, The Preparation

"Just last week this helmet (displaying a helmet) saved me from what might have been a serious scalp injury, by protecting my head from a piece of falling debris. Those of you who have had experience can recall similar cases, where because of its substantial construction, the helmet has at least broken the fall of what might have been sure death. The helmet has many uses; among some that I have seen it used for, is the carrying of water to revive a fireman who had been temporarily 'out of the picture,' or to break windows to gain entrance to a burning building.

"Let us examine the helmet further, to see why it is so important a piece of equipment.

Step II, The Presentation

"You will notice, as I point out from the helmet in my hand, that it is built to withstand considerable strain because it is (1) made of leather; (2) pressed from the finest cuts; (3) baked in ovens to harden and shaped under this process; (4) made so it will resist water and heat; (5) reinforced by ribs or cones; and (6) made so it can be worn in reverse position to protect the face from heat.

"At the front and top is an eagle used to fasten on the frontpiece. Your frontpiece designates your rank and company and colors designate different ranks. On the inside you will notice a soft special felt lining containing air holes, acting as a cushion; supported by a brass lining around the

Telling or Explaining Is Not Instructing

edges to help keep the felt in place and the helmet in shape. One thing you will want to remember is that the rules and regulations require that it be worn at fires. It should be worn at all times on fire duty. When wearing the helmet you identify yourself with a worthwhile cause, for it is emblematic of the fire service.

"This piece of your equipment will protect your head from falling timbers and pieces of brick. It will protect you from electric shock and from hot water. Because of its importance as a protection, it should be worn at all times on fire duty.

"Now, let us go through this again, to see how much we have learned about the helmet. Starting from the outside, as I hold the helmet in my hand, we see that: (1) it is made of leather, and I told you that this leather was: (2) pressed from the finest cuts; (3) baked in ovens to harden and shape; (4) made to resist water and heat; (5) reinforced by ribs or cones to make it rigid; (6) and, in addition, it can be worn in a reverse position so that the long back end will protect the face from fire or heat.

"At the front and top is an eagle used to fasten on the frontpiece which designates your rank and company. Inside the helmet is a soft, special felt lining and a brass lining around the edges to hold the felt in place and help give shape to the helmet, as well as to act as a cushion on your head. The helmet protects your head from falling objects or from water that may have been heated to the scalding point. Its purpose is to protect the wearer.

Step III, The Application

"Will you" (addressing the beginner) "take this helmet and tell me all you can about it?"

Beginner (with helmet in hand): "Starting at the outside, we find that this helmet has eight cones or ribs to give a substantial construction to the helmet. It is made of leather especially cut, prepared and hardened under heat. It can be worn in reverse so as to protect the wearer from heat as well as from water. On the top and front is a frontpiece which shows what my rank is, and to what company I belong. The inside has a special felt lining with air holes that act as a cushion. It is held in place by a brass lining that aids also in keeping the helmet in shape. It is required to be worn by the rules and regulations. The purpose of the helmet is to protect me and for that reason should be worn at all fires."

Instructor: "You have done well. There are a few points that help to make this an interesting subject, and one of them is that this piece of equipment is emblematic of the fire service and for that reason is somewhat like a badge of honor. It should be worn at all times on fire duty."

Step IV, The Test

1. Why is the helmet an important part of your equipment?
2. When should it be worn?
3. Does the frontpiece designate anything?
4. How is the helmet constructed?
5. Show me how you wear the helmet and why.

(If the beginner has a real appreciation of what the fire helmet is and can wear it correctly at all times, the lesson has been well taught.)

In order to illustrate further the teaching of a lesson in accordance with a systematic method, suppose we take another example outside of the field of your experience and actually instruct you in something new. It is necessary for us to choose a job where we will have the materials at hand, yet one that will be a mechanical job in which the operations can be very clearly and distinctly set forth. We will choose, therefore, a lesson on "How to Make a Paper Cup," a "doing lesson," in which the learner actually is required to perform—to do.

I. Preparation

There are times, perhaps, when you have felt the need of some sort of container in which to carry water. If you happen along the road, discover an automobile accident and hear a person asking for a drink of water, it might be well to know some way in which you could obtain a container that would hold water long enough to satisfy the thirst of an injured person. Or, again, if your family is on a picnic and you find that you need a few more cups, it might be well to know how to fold a piece of paper so that it would hold water. My purpose in giving this lesson is not only to teach you something about teaching, but also to give you an appreciation of the need and ability to perform the operations of making a paper cup.

II. Presentation

1. Take a sheet of any size writing paper, say 8½x11, and tear off to make approximately square, as in Fig. 1.
2. Fold diagonally as in Fig. 2.
3. Fold the left corner to about the center of the opposite side, as in Fig. 3.
4. Fold the right corner in a similar manner to about the center of the opposite side, as in Fig. 4.
5. Fold one of the top flaps down toward you and the other away from you, as in Fig. 5.

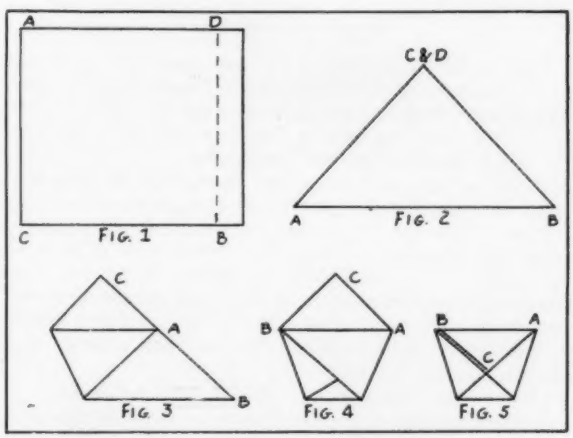


FIG. 1 FIG. 2 FIG. 3 FIG. 4 FIG. 5

III. Application

In order to make sure that you understand how to make this cup, will you go through the operations of the job yourself, and I will assist you if you need help.

1. Take a sheet of writing paper, or any kind of paper, and tear so that it is approximately square.
2. Fold diagonally.
3. Fold the left corner to about the center of the opposite side.
4. Fold the right corner in a similar manner to about the center of the opposite side.
5. Fold one of the top flaps down and toward you, the other down and away from you.

IV. Test

Your ability to make the paper cup without assistance now from the written page would signify that the lesson had been taught up to the point of doing ability in performance, which is, after all, the test in industrial jobs. Practice makes perfect.

Analyzing the Instruction Process

You will notice that in teaching the lesson on "The Construction, Use and Importance of the Fire Helmet" and on "How to Make a Paper Cup," there were four steps involved in the teaching process: (1) preparation; (2) presentation; (3) application, and (4) test. Step I, the preparation step, is so-named for the reason that the instructor must *prepare the mind* of the learner for the new ideas he wishes to put over. Human beings learn through the association of ideas. New things are learned because the learner has had some previous experience of a similar nature, some experience that he can tie to that reflects toward or in keeping with the new idea to be learned. You can work out a new mathematical problem for the reason that you have had some experience in the fundamental processes of arithmetic. Step I, the preparation, therefore, is used to center old ideas and to ultilize them to connect up with the new ideas to be given. A good thing to remember is to "*prepare the mind of the learner for the new ideas to be taught.*" The preparation step might be either long or short, depending on the need, but it should be sufficient and effective. Prepare him—get him ready for the new idea.

In the lesson on "The Construction, Use and Importance of the Fire Helmet," the first step (the preparation) was made by calling attention to the fact that the helmet had saved the instructor from a serious scalp injury. Certain other uses were emphasized; why? To create a desire to learn more about it, to develop thinking on the part of the learner; to "hook up" his ideas with the ideas of the instructor, to prepare his mind for the new knowledge or information he is about to receive.

Step II, Presentation

This is the step in which the new ideas are *presented* to the learner for his acceptance. These should be presented according to the learning order of difficulty and only after there has been a complete hook-up with Step I. Much depends on the familiarity of the instructor with his subject, and his ability to arrange the new material in logical order, according to operations as performed. This can be applied to two kinds of lessons—doing and knowing. The doing lessons have to do with the actual skill or mechanical operations of the job. The knowing lessons have to do with related information and knowledge. In either case, analyze the job from simple to complex or in accordance with common practice and you can't go far wrong.

(Remember—keep going. It will soon be yours.)

In the first lesson, the construction of the helmet was set forth systematically, as follows:

A. From Outside.
   1. Made from leather.
   2. Pressed from the finest cuts.
   3. Baked in ovens to harden, and shaped under this process.
   4. Made so it will resist water and heat.
   5. Reinforced by ribs or cones.
   6. Can be worn in reverse position.
   7. Eagle to fasten frontpiece.

B. From Inside.
   8. Soft special felt lining—air holes.
   9. Brass lining to support and shape.

C. General.
   10. To protect from falling objects.
   11. Wear at all times on fire duty.

In Step II (the presentation) of the second lesson, the operations were clearly set forth as follows:

The operations of the job:

1. Select square cut piece of paper.
2. Fold diagonally.
3. Fold left corner to about center of right side.
4. Fold right corner in similar manner to about center of opposite side.
5. Fold one of the top flaps down and toward you, the other down and away from you.

In the lessons taught, we find the four steps of the instruction process in evidence. Step I, the Preparation, was brought out by calling attention to a need through the association of ideas, through preparing the mind of the learner for the new information or knowledge. Step II, the Presentation, was *presented* in the most effective way by setting forth the operations (mechanical) of the job: (1) square cut sheet of paper; (2) fold diagonally; (3) fold left corner to about center of opposite side; (4) fold right corner in similar manner to about center of opposite side; (5) fold one of the top flaps down toward you, the other down and away from you. (The operations of the job.)

Step III, the application, was provided for by giving the learner an opportunity of trying his hand at making the cup or in telling about the helmet. In this step, the instructor must give additional help as the learner needs it. He must give the learner the opportunity to apply the new information himself.

Step IV, the test, must be without the assistance of the instructor. It will be the final proof of the effectiveness of the instruction. Can the learner do the job?

The following illustrates the operations in the job of

1. Know where it is kept on the apparatus.

2 (left)—Lay mask flat on ground or place of use, unfasten box, grasp canister carrier with both hands, unfasten holder snaps, stand canister in upright position. 3 (right)—Take neck strap at top with left hand. Hold right hand on canister holder.

4 (left)—Place over neck. 5 (right)—Take body strap with left hand, place around body and fasten with both hands.

6 (left)—Place face piece in position over face by gripping sides with hands where head straps are connected, expand face piece and force head straps to top of face piece. 7 (right)—Insert chin well into lower part of face piece and pull head strap back over head. Head straps must lie flat against head.

8 (left)—Adjust head straps by means of buckles. 9 (right)—Test "Drill B." See that seal on bottom of mask is broken, place palm of hand tightly over bottom of canister opening. Inhale deeply. Face piece should draw tight against face without leaking.

PREPARATION	PRESENTATION	APPLICATION
From experience or previous teaching. Prepare the mind of the learner for the new idea. 5%-10% of the lesson time.	What the student is to learn in this lesson. 10%-25% of the lesson time.	The new idea which the student has gained and in which he has an opportunity to apply the new information. 65%-85% of the lesson time.
1. Questions. 2. Demonstration. 3. Illustration.	1. Doing. 2. Seeing. 3. Hearing. 4. Reading.	1. Doing. 2. Writing. 3. Telling.
Test - Can he do the work alone?		

putting on a Burrell gas mask. This becomes really what you teach, with all non-essentials cut out.

Summary

One thing to remember is not to be disturbed because you may not understand this chapter fuily. There are a few things to know: first that there are four steps in teaching (1) the Preparation; (2) Presentation; (3) the Application; (4) the Test; second, know the purpose of each step—

1. The preparation is to prepare the mind of the learner to receive the new information.
2. The presentation presents him with the new idea.
3. The application gives him a chance to apply it.
4. The test—can he do the thing alone?

Practice. It's a good idea to read this chapter again. Try it.

Test on Chapter II

Mark true statements with a plus sign (+) and false statements with a minus sign (—).

Step 1, Preparation

—— 1. Vocational education is concerned in learning by telling.
—— 2. We learn to teach by observation and reading alone.
—— 3. Start with a simple idea and prepare learner by giving reasons for need of the thing to be done.
—— 4. We can learn to teach by teaching.
—— 5. The raw products of an instructor are learners, untrained or partly trained.

—— 6. In starting a lesson, the instructor may talk about things that have no direct bearing on the lesson.
—— 7. In presenting the first step the instructor does all the thinking.
—— 8. The more thinking the learner does the less effective is the teaching.
—— 9. Too much time given to the preparation step is wasteful.
——10. Though incomplete, the facts brought out in this step will "tie up" with facts in the next step.

Step 2, Presentation

——11. Here we add new ideas to those already in the learner's mind.
——12. The purpose in this step is to impart additional knowledge or training, or both.
——13. The instructor need not adhere closely to the content.
——14. It is necessary to present ideas in an orderly sequence from simple to complex, from practical to theoretical.
——15. The instructor may introduce related ideas here at his discretion.

Step 3, Application

——16. Instructor has learner do what he was prepared for in Steps I and II.
——17. The instructor should help the learner in this step, if he needs it.
——18. The final checking of learners ability to understand and do the job is made here.
——19. The checking is made, to ascertain whether he knows and can do the job.

Step 4, Test

——20. The purpose of this step is to ascertain whether the teaching job has been done right.
——21. If the learner needs more help, this is the place to give it.
——22. He should be able to apply partly what he has been taught in previous steps.
——23. It may be necessary for instructor to refer to some facts in Steps II or III.
——24. He cannot apply all the information obtained in the previous steps as a whole.
——25. The instructor now becomes an inspector.

Note—The key to this test will be given in a subsequent issue.

(To be continued)

CANADIAN CHIEFS' ASSOCIATIONS HOLD JOINT MEETING AT HALIFAX

The Dominion Association of Fire Chiefs and the Maritime Fire Chiefs' Association Hold Combined Convention

THE twenty-fourth annual convention of the Dominion Association of Fire Chiefs and the 18th annual convention of the Maritime Fire Chiefs' Association, met jointly at the Canadian National Hotel Nova Scotian, Halifax, N. S., on July 19 to 22. The sessions of the Dominion Association were presided over by First Vice-President H. Guerin, Chief of Kitchener, Ont., owing to the death of President Gauthier, who lost his life in the explosion on an oil tanker in dry-dock at Montreal on June 17. At the Memorial Services a list of those who had passed away during the past year was read as follows:

Chief John Smith, of Guelph; Joseph Graham, Copper Cliff, Chief Lawrence Donnelly, Quebec, Chief E. R. Murray, Woodstock, Chief J. E. Lemieux, Ottawa, Russell Van Allen, Copper Cliff, Alexander Henderson, St. Thomas; Chief Huggard, Essex, and Chief Raoul Gauthier, of Montreal.

Tributes to the memory of Chief Gauthier were paid by Chief James Armstrong, Secretary of the Dominion Chiefs, and J. Grove Smith, Dominion Fire Commissioner. At the opening session the delegates were welcomed by W. H. Covert, Lieutenant Governor of Nova Scotia; Col. Gordon S. Harrington, Premier of Nova Scotia; Mayor A. A. Thompson, of Halifax, and Alderman Walter Mitchell, Chairman of the Halifax Fire Department. Replies were made by Chief Dubeau, of Quebec, and Captain MacRay, Secretary of the Maritime Association. A number of important papers were read at the various sessions of the associations. It was said that the arrangement of the program of the Dominion Association convention had been largely the work of the late Chief Gauthier, who had made a careful study of this important feature.

Important Papers Read

Among the papers read were "Fighting Fires in Apartment Houses," by Chief George Sinclair, Toronto; "Storage, Handling and the Hazard of Gasoline," by Chief Robert Harrington, of the McColl-Frontenac Oil Refineries, Montreal; a lengthy report on the hazards of binder twine in storage; "Automatic Sprinkler Systems," by A. H. Charlton, Dominion Electric Protection Company; "Ventilation at Fires," by Chief A. S. Kappelle, Stratford, Ont.; "Fighting Fires in Small Towns," by Chief Mitrella, St. Thomas; "Training Competent Drivers for Fire Apparatus," by Chief C. W. Thompson, Vancouver; "How to Curb Incendiarism in Times of Depression," by Fire Commissioner David R. Walsh, of Montreal; "Salvage and Conservation at Fires," by Chief D. A. Boulden, Winnipeg, and others.

In some cases the authors of these papers were unable to be present and the papers were read by Secretary Armstrong.

On the evening of Wednesday, July 20, a banquet was tendered the associations by Mayor Thompson, on behalf of the Halifax Civic Corporation. There were over two hundred persons present in the hotel ballroom, where it was held. The speakers were Col. A. N. Jones, President of the Board of Trade; J. Fred Fraser, Provincial Secretary; Mayor Thompson; Chief DeFields, Windsor; Alderman Murray Logan; Captain MacRae, Secretary of the Maritime Association, and others. It was voted to send telegrams to the members unavoidably absent regretting their inability to attend.

On Thursday there was a picnic at McNab's Island and a cruise on the harbor. On Wednesday afternoon the Halifax Fire Department gave an exhibition of fire fighting on the North Common.

Officers Elected

The officers elected by the Dominion Association were as follows:

President—Chief H. Guerin, Kitchener, Ont.
First Vice-President—Chief Day, Pembroke, Ont.
Second Vice-President—Chief J. W. Churchill, Halifax, N. S.
Secretary, Chief James Armstrong, Kingston, Ont.
Treasurer, Chief MacLeod, Port Arthur, Ont.,
Provincial Vice-Presidents—Prince Edward Island and Newfoundland—Chief Stewart, Charlottetown, P. E. I.; Nova Scotia—Harry Mersereau, Sydney; Quebec—Chief Boyer, Dorval; New Brunswick—Chief Walker, Fredericton; Ontario East—Chief Blackler, Ottawa; Ontario West—Chief Kappelle, Stratford; Ontario Centre—Chief Guirlet, Peterboro; Ontario North—Chief Mathieson, Kirkland Lake; Ontario N. W.—Chief Andrews, Sudbury; Alberta—Chief Hardy, Lethbridge; Saskatchewan—Chief Faithfull; British Columbia—Chief Thompson, Vancouver.

Officers elected by the Maritime Chiefs were as follows:

President—Chief L. L. McCallum, New Glasgow.
First Vice-President—Chief Thomas Armour, Saint John.
Second Vice-President—Chief Vincent Hall, Sydney Mines.
Third Vice-President—Chief Carl Walker, Fredericton.
Secretary-Treasurer—Captain Kenneth J. MacRae, Saint John.
Auditors—Chiefs H. M. Mersereau, Sydney, W. J. Christie, Truro; A. P. Copp, Newcastle.

It was announced that the next convention of the Maritime Fire Chiefs' Association would be held at Digby, N. S., on July 18-19, 1933.

Shanghai Threatened by Ammunition Fire

The Fire Brigade of Shanghai, China, was faced with a severe chain of events when fire broke out in the gasoline stored in the hold of a 4500-ton Japanese army transport. The oil fire was next to a room containing a large supply of artillery ammunition.

Firemen laid hose lines on the wharf where 400 Japanese soldiers drenched large amounts of ammunition stored on the quay. Just as the water was beginning to show good effects, it was decided to cut the boat adrift. Two fire floats and the customs boat took the transport in tow and made for lower reaches of the river. Rapid pumping of water resulted in over fifteen feet of water being put into the ammunition hold. Firemen were helped by seamen of the boat's crew. The boat was beached.

Fortunately, there were no casualties, although the firemen experienced a most anxious period. Fire was localized to the after hold.

Higher Court Justices' Opinions Interpreting Questions on the

Authority of Fire Officials

By LEO T. PARKER
Attorney-at-Law

GENERALLY speaking, the Courts uphold decisions rendered by Fire Marshals, with respect to issuing licenses for conduction of businesses, particularly if it is shown that such refusal is based upon a reasonable rule made by the Fire Marshal that the particular location of such business increases fire hazards.

For illustration, in Leach vs. State Fire Marshal, 179 N. E. 616, it was shown that a state law granted authority to municipal Fire Marshals to decide finally whether issuance of licenses for the operation of businesses would be likely to result in fire hazards.

A company which has been issued a license to operate its business filed suit to invalidate a Fire Marshal's order which subsequently revoked the license. The counsel for the company contended that since the license had been issued by the municipal authorities the Fire Marshal could not legally revoke it. However, it is important to know that the higher Court held the company bound to abide by the order issued by the Fire Marshal, and said:

"The right of the Fire Marshal was for the sole purpose of having him pass upon the question whether the exercise of the licenses granted would constitute a fire or explosion hazard. It is apparent that the answer to this question in a particular case may depend upon the location, the precautionary measures adopted, the manner in which the license is to be exercised and perhaps upon other considerations. . . . The final responsibility of deciding in a particular case whether the exercise of a license issued under the statute would result in a fire hazard has been placed by the Legislature upon the Fire Marshal. . . . He notified all parties, however, that if the conditions imposed by him were not complied with the licenses would be revoked. . . . We cannot say that any of the conditions specified by the Fire Marshal were unreasonable, too vague in their terms, or beyond the power of the marshal to impose."

Subjects Treated in This Article

When Fire Marshal May Refuse to Issue License

Ordinance Sustained Requiring Permit to Remodel Building

When Fire Commissioners May Select Site of Fire House

Control of City Over Construction and Remodeling of County Buildings

Restrictive Zoning Ordinance Held Valid

Permit Required to Remodel Building

It is well settled that when an ordinance is passed relating to a matter which is within the legislative power of the municipality, all presumptions are in favor of its validity, and when it is attacked the burden is on the party alleging its invalidity to establish that fact. Also, it is important to know that an ordinance which requires property owners to obtain permits to operate specific businesses is applicable with respect to the owner of a building intended to be remodeled.

For instance, in Yuba City vs. Cherniavsky, 4 P. (2d) 299, it was disclosed that a city enacted an ordinance, as follows:

"No building arranged, designed, devoted to or intended to be used for a non-conforming use, at the time of the effective date of this ordinance, shall be reconstructed or structurally altered to an extent exceeding in aggregate cost twenty-five per cent of its assessed value, without a permit therefor first being granted by the unanimous vote of the City Council, unless the use of said building be changed to a conforming use."

The owner of a building, in which was operated a grocery store, failed to obtain a permit but proceeded to reconstruct the building. Suit was filed to prevent conduction of the old business in the new building. The property owner contended that an ordinance of this nature is invalid and, also, argued that since he had operated the old business in the old building he should have the right to operate the same business in the new and remodeled building. However, it is important to know that the higher Court refused to uphold this contention, and said:

"It is conceded the city has the authority under its police powers to adopt a reasonable zoning ordinance prescribing the confines of residence, business and industrial districts. . . . The reasonableness of the present ordinance is not challenged. . . . There was no attempt in the present case to show that the zoning ordinance in question is unreasonable in any particular. . . . The necessity of first requiring the consent of the Council to thus change the location of a grocery business, or permit a substantial enlargement thereof, does not appear to be an unreasonable exercise of the police power of the city. A city may lawfully require that an individual shall obtain a permit for the construction, alterations, or use of a building."

When Fire Commissioners May Select Site of Fire House

Considerable discussion has arisen from time to time whether or not Fire Commissioners, or officials of a municipal Fire Department, may construct a fire department building in violation to a city zoning ordinance. This point of the law was decided during the past few weeks by the Nassau County Court of the State of New York.

The facts of this case are that a fire district was established in the town of Hempstead pursuant to Section 38 of a county law which authorized the Fire Commissioners to rent, purchase or construct suitable real property, or repair and equip existing buildings, for the purpose of storing fire apparatus and for recreational use of firemen. The law, also, authorizes the Fire Commissioners to control and manage fire department property, and to "prescribe the rules and regulations for the operation of all companies of the fire district." Another sec-

tion of the law provides that the Fire Commissioners may adopt ordinances for protecting and preserving the apparatus of the Fire Department; for regulating the erection of buildings where extra hazardous business is to be carried on; for regulating the attendance in public buildings; for regulating the erection of fire escapes on public buildings, and for such other and further purposes as shall tend to provide for the general safety of persons and property.

The Fire Commissioners acquired real property in the town of Hempstead for the purpose of erecting thereon a building for the storage of fire apparatus. By order of the Fire Commissioners the building was erected under the direction of the Chief of the Fire Department in the district. The building was erected without obtaining a building permit from the authorities of Hempstead and without the approval by such authorities of the location of such building.

Several months previously the town of Hempstead had passed a zoning ordinance which restricted the kind and class of buildings to be erected in certain business districts, and required that permits be obtained by all prospective builders before any buildings shall be erected in these classified districts.

The Fire Commissioners failed to obtain a permit from the Town Board for construction of a fire house and proceeded to construct the same. After the fire house was fully completed and equipped notifications were sent to the Chief of the Fire Department and to the Fire Commissioners to vacate the building which had been erected upon orders of the Fire Commissioners with full knowledge that no permit would be granted by the building department of the town to construct the new fire house.

In the ensuing litigation it was contended by the counsel for the town that notwithstanding the provisions of Section 38, above enumerated, the Fire Commissioners could not legally construct a fire house in violation to the municipal ordinance which prohibited construction of such building without a permit. After carefully considering all testimony the Court rendered a decision in favor of the Chief of the Fire Department and the Fire Commissioners, holding that the Fire Commissioners had proper authority to select the site of a new fire house and authorize construction of the same although a municipal ordinance prohibited such building to be constructed in the selected location. This Court said:

"A fire district created under Section 38 of the County Law is neither a corporation nor a quasi-corporation, its Commissioners being administrative officers only with the powers and duties conferred upon them by statute. . . . The question squarely presented, therefore, is whether the action of Commissioners of such a fire district in the erection of a building for the storage of fire apparatus on property acquired by the district for that purpose is subject to regulation by zoning ordinances of the town of Hempstead. . . . By Section 38 of the County Law the Legislature devolved upon the Commissioners of the fire district not only the police power to enact ordinances regulating the erection of buildings within the district from the points of view of safety and fire hazards; not only the right to erection and maintain buildings for storing their fire apparatus and to adopt ordinances governing the same; but specifically to 'purchase suitable real property' for that purpose. The statue indicates to me clearly the legislative intent to confer upon the Fire Commissioners the power to determine what particular real property is 'suitable' for that purpose, and I cannot find that the Legislature, in enacting the provisions of the Town Law relative to zoning, repealed that provision, revoked that authority, took it away from the Commissioners and devolved it upon the Board of Appeals or other zoning authority of the town. Such an intent should not be inferred; and that it did not exist is indicated by the amendment and re-enactment of the subdivisions in questions of County Law, Section 38, subsequent to the enactment of the provisions of the Town Law relative to zoning. . . . Under the County Law the Fire Commissioners have the right to determine the site or location of the proposed building and the right to adopt ordinances governing the protection and preservation of their apparatus. Under the Town Law the Town Board may adopt ordinances 'zoning' the territory of the town for diver purposes, business, residential, etc., regulating area requirements, location of buildings on lots, height and size of different types of buildings, yard front, side and rear, and requiring the issuance of a building permit before any building may be erected, in order that compliance with such regulations may be enforced. . . . In the present case, however, the town has not attempted so to regulate or restrict, but on the contrary in effect to prohibit. Its ordinance prohibits the erection within the fire district . . . of a public building which the Commissioners of the fire district have been expressly authorized by the Legislature to erect, and a site for which those same Commissioners have been expressly authorized by the Legislature to acquire. The Town Board purports by its ordinance, or by the construction it places thereon, to authorize its Board of Appeals to determine where within the fire district such building may be located, or whether it may be located in the district at all. This is in effect prohibition, and may not be sustained. It is directly contrary to what, in my opinion, is the power directly conferred by the Legslature upon the Fire Commissioners—*i.e.*, the designation of the site. . . . Holding, as I do, that the site was, under the statute, properly chosen by the Commissioners, the Board of Appeals and other zoning authorities wrongfully withheld the permit to erect the building solely on the ground of non-approval of the site by the Board of Appeals."

Another leading case involving this point of the law is Kentucky Inst. vs. Louisville, 8 L. R. A. (N.S.) 553. In this case the Higher Court held that an ordinance of the city, requiring all buildings of a certain class to have fire escapes, did not apply to institutions established and maintained under the control of the state. The Court said:

"An act granting a charter for a municipal government will not be deemed a cession of the Legislature's prerogative to govern for itself the institutions of the state which may be located within such municipality, unless it may be clearly gathered from the latter act that such was the legislative intent. . . . The state will not be presumed to have waived its right to regulate its own property by ceding to the city the right generally to pass ordinances of a police nature regulating property within its bounds."

Control of City Over County Buildings

Obviously, a state law is valid which clearly authorizes municipalities to control erection of all buildings, and a city ordinance is valid which regulates construction and maintenance of public buildings, such as those utilized by municipal Fire Departments.

For example, in the leading case of County of Cook vs. City of Chicago, 311 Ill. 234, it was shown that a state enacted an ordinance which authorized municipalities to restrict construction of buildings, and to requre the owners of buildings in dangerous condition to remodel them or to have the same torn down.

Litigation arose over the validity of a Chicago city ordinance which required building owners within the city to comply with certain fire regulations. It was contended that the ordinance was not applicable to the county jail located in the city of Chicago. The county officials argued that an ordinance enacted by the city of Chicago was not applicable with respect to operation and conduction of the county jail. However, it is important to know that the higher Court held that the county, in the construction of its jail, was amenable to reasonable police regulations imposed by the city under the police power granted to it by the state in the interest of the general welfare of the public. This Court said:

"We are of the opinion that in enacting *63 of article 5 of the Cities and Villages Act, and in using the language 'and to cause all such buildings and enclosures as may be in a dangerous state to be put in a safe condition,' the Legislature intended to confer upon the City Council such power over all of the buildings erected within the city as the

words there indicate, including those of the county or other municipalities located therein."

Restrictive Ordinance Held Valid

It is well settled law that any zoning ordinance is valid and enforceable providing its terms are reasonable and necessary for the purpose of benefiting the health, comfort, and safety of the general public.

For illustration, in F. E. Summers Company vs. Haff, 177 N. E. 409, it was disclosed that a City Council passed an ordinance requiring sidewalks in front of newly constructed buildings to be not less than 10 feet in width. Suit was filed by the municipal officials against a property owner who began to construct a building in violation of this ordinance. The counsel for the property owner argued that enforcement of the law would be detrimental and prejudicial to the use of the premises for building purposes, and unconstitutional as a taking of private property for public purposes without just compensation.

Notwithstanding this argument the higher Court held the ordinance valid, and said:

"When we come to consider the need of adequate space about stores for purposes of access and parking of vehicles we will find that what are wanted are wider streets and deeper lots. . . . With adequate zoning regulations sufficient space could be provided about each group of business buildings to meet all their needs without increasing their frontages."

IT IS FALSE ECONOMY TO SACRIFICE EFFICIENCY IN THE FIRE DEPARTMENT

In Periods of Depression the Necessity for an Efficient and Well Manned Fire Department Is Greater Than in Normal Times

By Jay W. Stevens

State Fire Marshal of California

DURING these uncertain times, our municipal officials are giving serious thought to the question of economy. With most of them, it is not a matter of "Shall we cut?" but "Just where shall we cut?"

The departments of the city service where the greater expenditures are made are naturally the first to attract attention. The Fire Department is one of these.

Jay W. Stevens

It is sometimes rather difficult to convince officials of the danger of false economy in relation to the Fire Department. A city must pay, and it is just a question of how it pays—whether it is for an efficient, well-equipped, well-manned and well-trained Fire Department, with the resultant low fire loss, low insurance cost, and a high degree of safety, or for an under-manned, under-equipped, poorly-trained Fire Department, promoting a high loss ratio, a high insurance cost, and a lesser degree of safety.

Good Fire Department Best Investment

A study of any of our American cities covering the fire loss experience over a five- or ten-year period, will convince any reasonable person, I am sure, that a good Fire Department is the best possible investment any city can make, and that it pays big dividends, not only in dollars and cents, but in the vastly more important thing—the saving of human lives.

Several of our better Fire Departments are today self-sustaining. By this, I mean that the cost of all improvements made in apparatus and man power has more than been offset by the reduced insurance costs to the taxpayers. As a matter of fact, there are instances where the annual upkeep of the entire Fire Department has been met by the savings created from reduced expenses.

An efficient Fire Department is necessary at all times, but it is doubly necessary during periods of uncertainty and changing conditions, when stock values are reduced, business profits have decreased, and merchants and manufacturers are being forced into bankruptcy.

Man Power Should Be Increased

Instead of reducing man power and closing some of the fire stations, the man power should be increased and new equipment added, in order that fire fighting forces may be able to hold the line under these abnormal and unfavorable conditions.

Full consideration should be given to the future inevitable problem of rebuilding a Fire Department, once its efficiency is impaired.

So Easy to Tear Down; So Hard to Rebuild

How easy it is to tear a structure down, but how hard to rebuild it! It is certainly more satisfactory from every standpoint to erect an entirely new building than to rebuild a partially destroyed structure, and this may apply, also, to a Fire Department. Once its efficiency, its morale, is destroyed, it is a long and tedious undertaking to rehabilitate it.

Reading between the lines of this brief summary of conditions and the perils which threaten our fire defense, we find the problem of moral hazard.

Improvements Difficult to Obtain

It must be considered that improvements to the individual risk are extremely difficult to obtain in times like these, for, while the assured is normally honest and will safeguard his premises, his business may have reached a point where its destruction by fire would be met with indifference.

Fire chiefs and city officials who stand for "Safety First" need the co-operation of the entire fire insurance fraternity, including the engineers of the National and local boards, as well as all general, special and local agents, at a time like this, and I most earnestly call attention to the seriousness and urgency of the situation that is now confronting us.

—Firemen's Fund Record.

A. A. Buss New Chief of Wausau, Wis.

Arthur A. Buss, who has been a member of the Fire Department of Wausau, Wis., for seventeen years, was appointed on July 1 as Chief, to fill the vacancy created by the resignation of Chief Frank F. Zielsdorf.

Chief Buss has served the Wausau department as ladderman, driver, assistant mechanic, drill master and Assistant Chief. He is a graduate of the Milwaukee, Wis., Drill School, and is forty-one years of age.

One Way of Providing Relief for the Needy

Volunteer firemen of Brookline, Pa., used fire apparatus to gather food and canned goods to be distributed to the needy of the district. A well worded banner was hung from the side of the apparatus.

Conclusion of the Report and Review of the Exhibits of the

New England Chiefs' Convention

By HARRY BELKNAP

FOLLOWING is the conclsion of the report of the tenth annual convention of the New England Association of Fire Chiefs, held at Newport, R. I., on June 21 to 24. The first portion of this report was published in the July issue of FIRE ENGINEERING.

Forest Fire Fighting Exhibits Shown

There were a number of specially designed forest fire trucks on exhibition and water was pumped through hose

Photo by George W. Austin

At the New England Chiefs' Newport Convention

Front row, left to right: Asst. Chief Thomas F. Dougherty, F.D.N.Y.; Alfred N. Minor, Jr., Vice President, Massachusetts Safety Council; Chief Frank Charlesworth, Providence, R. I.; Hon. Daniel F. McLaughlin, East Providence, R. I.; John Colley, Providence, R. I. Rear Row: Hon. James G. Connolly Lt. Governor, State of Rhode Island; P. Hildreth Parker, President Box 52 Association, Boston, Mass.; Deputy Chief John H. Fischer, Providence, R. I.; Chief William H. Hill, Belmont, Mass.; Lieut. Eldredge, Providence, R. I.

lines, the tests being held on the street in the rear of the convention hall at the beach.

The trucks included the District No. 11 Truck of the New York State Department of Conservation from Long Island. This machine contains a 320-gallon tank of water and is mounted on a Dodge Bros. chassis. It carries two reels each holding 500 feet of ¾-inch hose. The car is fitted with a Viking rotary pump and also carries six Indian hand pump cans.

Engine 3, the forest fire truck of the Westport, Mass., Fire Department, was on hand. This car has a 1,000-gallon water tank and is equipped with a Northern pump. The car is a Mack and carries 500 feet of 1½-inch hose and 300 feet of one-inch hose.

The Forest Fire Engine from Canton, Mass., was at the scene in charge of Chief C. King Endicott and Forest Warden Joseph Powers. This machine, mounted on a Chevrolet chassis, was built by the Stewart Body Company, of Hopkinton, Mass., from designs by Chief Endicott and Mr. Powers. It has a 110 gallon water tank and carries 1,600 feet of 1½-inch hose, 450 feet of inch hose, 10 chemical extinguishers, and 4 pumps cans, also broom and shovels.

The Massachusetts Department of Conservation had on exhibition the forest fire truck from Sudbury, Mass. This machine on a Chevrolet chassis carries a Fitz-Henry Guptil pump, four hand pump cans, and 4,600 feet of one-inch hose.

Demonstrations were given of streams suitable for forest fire work, also of the Gilson bent angle nozzles and of the Gilson water curtain.

The American Fire Equipment Company, of Boston, exhibited a Barton 4-cycle portable pumping outfit.

There was a trip by motor cars to the U. S. Naval Training Station where there was a dress parade by the apprentice seamen. Chief Lawton, of Newport, and Chief Allen, of Brookline, were honored by being invited to participate in the review along with the ranking naval officers. There was also exhibition dropping of a torpedo from an airplane.

In the evening there was a dance and vaudeville entertainment with a buffet supper at the Newport Beach Casino. The show was arranged by Lawrence Ebbs and Ray Beckett acted as master of ceremonies.

All the transportations arrangements at the convention were handled by "Billy" Bull. Hotel reservations and registrations were handled by P. Hildreth Parker, George W. Austin, and Herbert K. Pratt, of the Box 52 Association of Boston, Mass.

The Closing Session

The closing session of the convention was held Friday morning at Newport Beach. Upon motion by Chief Selden R. Allen, of Brookline, Mass., it was voted to send a telegram of greeting and sympathy to Chief Patrick J. Hurley, of Holyoke, Mass., who is in the hospital recuperating from serious injuries received in an accident while responding to an alarm of fire.

Upon motion by Chief Alfred H. Koltonski, of Rutland, Vt., it was voted to send a telegram of sympathy to the mayor of Montreal on the death of Chief Gauthier, of the Montreal Fire Brigade, who met death while leading his men at the fire and explosion on the oil tanker "Cymbeline."

It was voted to send a telegram to the International Association of Fire Chiefs stating that the New England Association of Fire Chiefs believes it inexpedient to hold an International Convention this year

A vote of thanks was tendered to Chief James W. Barker, of Middletown, R. I., Acting Chairman, and the other members of the Exhibit Committee for the fine job which they performed under trying conditions.

Automatic Vents Over All Tenement Stairways

Assistant-Chief Thomas F. Dougherty, of the New York Fire Department, spoke on the spread of fires on the top floors of tenements and advocated the installation of auto-

The Past-President and the President-Elect

Past-President Joseph L. Lawton, Newport, R. I. (Left), and President Alfred H. Koltonski, Rutland, Vt.

matic vents over all stairways, elevators, and dumb waiter shafts. He told of his experiences in various fatal New York fires where heat and gasses had caused deaths. He urged the association to go on record in favor of compulsory installation of skylights with fusible links or similar devices. Upon motion by Chief John S. Pachl, of the Annex Fire Department, New Haven, a committee was appointed to make a report on the subject. Chief Lawton appointed Chief Lawrence E. Reif, of New Haven, Conn.; Chief Charles L. McCarthy, of Worcester, Mass.; and Chief Daniel B. Tierney, of Arlington, Mass., to the committee.

Ex-Chief Daniel F. Sennot, of Boston, Mass., confirmed the statements of Chief Dougherty from experiences with tenement and apartment house fires in Boston.

Others who took part in discussion of the subject were Chief James M. Casey, of Cambridge, Mass.; and Chief Lawton, of Newport.

Chief William C. Mahoney, of Peabody, Mass., and Chief John C. Moran, of Hartford, Conn., spoke in favor of making the conventions three days instead of four.

Chief Oliver T. Sanborn, of Portland, Me., suggested charging a two dollar registration fee to include a banquet ticket. Others who spoke briefly on various topics were Chief Tierney, of Arlington; Chief O'Hearn, of Watertown; and Chief William Ziegler, of Hackensack, N. J.

Chief Allen then moved to proceed to election of officers. Chief Sanborn, of Portland, Me., nominated Chief Alfred H. Koltonski, of Rutland, Vt., for President. The election was unanimous.

Chief Selden Allen then presented Chief Lawton, of Newport, with a handsome Telechron Electric Clock as a gift from the association and Chief Koltonski pinned a past president's gold badge on Chief Lawton's coat.

Chief Daniel B. Tierney, of Arlington, Mass., was then elected First Vice-President; and Chief Thomas F. Burns, of Bridgeport, Conn., was chosen Second Vice-President. Chief John W. O'Hearn, of Watertown, Mass., was re-elected Secretary-Treasurer and Chief John J. Kennedy, of the Bryant Electric Company, Bridgeport, Conn., was re-elected Sergeant-at arms. The State Vice-Presidents were then elected.

Reports were received from P. H. Parker and George W. Austin, of the Committee on Registrations and Reservations, and from Chief David A. De Courcey, of Winchester, Mass., Chairman of the Committee on Courtesies, extending thanks to Mayor Sullivan, Dr. Beck, of the Chamber of Commerce, and Chief Lawton for their hospitality.

Percy Charnock, of the New England Insurance Exchange, made a short address and extended his greetings to the chiefs.

The question of the place of holding next year's convention was left to the officers and Board of Directors.

The convention then adjourned. Some of the Chiefs and their guests paid a visit of inspection to the Naval Torpedo Station on Goat Island.

The Exhibits

The motor fire apparatus shown at the convention was displayed in tents set up directly across the street from the exhibit hall at Newport Beach.

The largest piece on view was one of the latest type Mack 85 ft. aerial hook and ladder trucks with one man control, mechanical quick raising ladder extension, and fitted with a ladder pipe. This big truck attracted much attention and was the center of interest, being demonstrated constantly for the benefit of the chiefs and their guests who admired the ease and flexibility of the motor controlled ladder.

The Mack firm also exhibited a 1,000 gallon capacity centrifugal type motor pumping engine and a 750 gallon rotary type motor pumper. The Mack representatives, from the International Motor Company, were Mr. Fenna, John Keen, C. A. Anderson, Walter Zimmer, and John Davis.

The Maxim Motor Company, of Middleboro, Mass., showed three handsome pieces of motor fire apparatus. The display included a 750-gallon combination pumper and hose wagon; a 500-gallon combined pumper and hose wagon; and a city service hook and ladder truck. All three pieces of apparatus were equipped with booster tanks and pumps and were fitted with glass windshields.

The Maxim ladder truck will be delivered to Hyannis, Mass., and a duplicate of this truck has been ordered by Narragansett Pier, R. I. Ernest L. Maxim was in charge of the exhibition and was assisted by Fred Alger, sales manager, and by Merrill A. Shaw, service manager.

The new motor driven aerial hook and ladder truck recently delivered to the Newport Fire Department by the American-LaFrance Corporation was also a center of interest although it was in service and hence kept at the new fire house in Newport instead of being displayed at the beach.

The exhibitors in the main hall were as follows:

The American Fire Equipment Company, of Broad Street, Boston, Mass., had a large showing of fire department supplies and equipment, featuring especially the Barton Portable Fire Pump, Fomon generators, and the Indian Fire Pump Cans for forest fire work. Flashing signal lights, hose, rakes, chemical extinguishers, nozzles, and other items of interest were shown. The representatives in charge were John J. Scully, Hubert Tracy, and Leo Gavell.

The Gamewell Company, of Newton, Mass., exhibited one of the new Peerless three fold fire alarm boxes of the non-interfering successive type and also showed a new style of pedestal. E. J. McCarthy and Russell A. Glenn were in charge of the exhibit.

The Justin A. McCarthy Company, of 176 Federal Street, Boston, showed a complete line of fire supplies including helmets, nozzles, extinguishers, axes, etc., especially featuring Manhattan fire hose and the King Lite flashing safety signal. Justin McCarthy, Arthur E. Lindh, and A. Mulock were in charge.

Photo by George W. Austin

"Jackie" and Her Gang

Miss Jacquelyn E. Radford served as secretary to the Committee on Reservations and Registrations at the recent convention of the New England Association of Fire Chiefs, held at Newport, R. I. The members of this committee are P. Hildreth Parker, George W. Austin and Herbert K. Pratt, all members of the Box 52 Association, Boston. The members of this committee have served as registrars at nine consecutive conventions of this association. This year the work of hotel reservations was added to the duties of the committee. They are shown on a Mack truck.

The American LaFrance and Foamite Industries, Inc., represented by Joseph A. Webber, Lester J. Creaser, Jess Edwards, Arthur G. Sullivan, and Edward Spellman, exhibited Foamite generators, Alfite extinguishers, Sterling fire sirens, LaFrance Goodyear fire hose, and a complete line of fire department supplies including rubber boots and firemen's coats.

Knight & Thomas, of 212 Summer Street, Boston, exhibited Underwriters' chemical extinguishers and a new type of Protexite anti freeze extinguishers. Charles D. Tuckerman was in charge.

The Midwestern Raincoat Mfg. Company, of Mackinaw,

Chiefs Who Attended the Annual Convention of the New England Fire Chiefs' Association

Abel, Henry F., Westwood, Mass.
Allen, Selden R., Brookline, Mass.
Adams, Del. C., Millis, Mass.
Almond, Thomas, Central Falls, R. I.
Anderson, Robert J., Bristol, R. I.
Bacon, J. R., Weymouth, Mass.
Barker, James W., Middletown, R. I.
Barton, R. W., Foxboro, Mass.
Bartlett, Ernest N., Billerica, Mass.
Batchelder, Earl H., Centerdale, R. I.
Belcher, Warren H., Winthrop, Mass.
Berggren, Karl R., Oxford, Mass.
Bills, Louis W., Lexington, Mass, (Supt. Fire Alarms).
Blair, Wm. J., Nantucket, Mass.
Bonner, Robert J., Westerly, R. I.
Blois, W. G., Westboro, Mass.
Breagy, Richard T., Dover, Mass.
Brown, Frederick A., Apponaug, R. I.
Bunyan, Albert, Chicopee, Mass.
Cameron, Lloyd J., West Haven, Conn.
Carey, John H., Fall River, Mass., (Fire Commissioner).
Carr, Peter, Lawrence, Mass., (Fire Commissioner).
Casey, James M., Cambridge, Mass.
Casey, John L., Abington, Mass.
Charlesworth, Frank, Providence, R. I.
Chevallier, Albric, Artic, R. I.
Clark, Fred A., Attleboro, Mass.
Cote, A. J., Woonsocket, R. I.
Conron, Harold, J., North Reading, Mass.
Cribby, Jos. A., Somerville, Mass.
Crowe, John P., Westboro, Mass., (Ex-Chief).
Crowley, Roger, Manchester, N. H.
Daggett, W. H., Springfield, Mass.
Daoust, Samuel, Marlboro, Mass.
David, Fred M., Groton, Mass.
DeCourcey, D. H., Winchester, Mass.
Deslauriers, Theodore, Ware, Mass.
Dickinson, Frank F., Brockton, Mass.
Donnelly, T. H., West Hartford, Conn.
Dougherty, Thomas F., New York, N. Y., (Asst. Chief N. Y. Fire Dept.).
Drew, Morris R., Valley Falls, R. I.
Duchesneau, Joseph E., Southbridge, Mass.
Dyer, S. B., Whitman, Mass., (Ex-Chief).
Earley, Charles G., Turners Falls, Mass.
Endicott, Charles K., Canton, Mass.
Fancy, F. W., Brookline, Mass.
Flynn, Daniel W., Great Barrington, Mass.
Fortier, Henry E., Manville, R. I.
Fox, Arthur, Graniteville, R. I.
Foy, Albert B., South Manchester, Conn.
French, Charles H., Manchester, N. H.
Galvin, Thomas F., Lawrence, Mass., (Commissioner).
Gately, John J., Watertown, Mass.
Gillis, J. A., Uxbridge, Mass.
Gisborne, F. R., Sound Beach, Conn.
Glynn, Theodore, A., Roxbury, Mass., (Ex-Fire Commissioner).
Graham, Fred D., Wakefield, Mass.
Green, William C., Concord, N. H.
Griswold, Stanley W., Westbrook, Conn.
Timothy L. Hagarty, Meriden, Conn.
Hall, Willard B., Fruit Hill, R. I., (Ex-Chief).
Hammond, I. C., Westport, Mass.
Hall, Frank P., Athol, Mass.
Hanmer, Henry F., Wethersfield, Conn.
Hannigan, John J., Norwood, Mass.
Harrison, Frank R., Onset, Mass.
Hayes, John H., Bristol, Conn.
Harrigan, H. J., Dedham, Mass.
Heitman, Henry H., Waterbury, Conn.
Hill, William H., Belmont, Mass.
Holmes, Harry J., Milton, Mass.
Horne, William D., Millbury, Mass.
Hough, W. F., Lebanon, N. H.
Hutchinson, Fred A., White River Junction, Vt.
Inkley, Clyson P., Rockland, Mass.
Johnson, Robert H., Holden, Mass.
Jones, Elam B., West Springfield, Mass.
Joy, Mellen R., Saugus, Mass.
Kelley, Joseph E., Danvers, Mass.
Kellogg, Samuel E., Hopedale, Mass.
Kennedy, John J., Bridgeport, Conn.
King, Herbert E., Mansfield, Mass., (Ex-Chief).
Kingsbury, Allan A., Medfield, Mass.
Kitchen, Louis E., Rutland Heights, Mass.
Koltonski, Alfred H., Rutland, Vt.
Lamphere, L. L., Naugatuck, Conn.
Lawton, Joseph S., Newport, R. I.
Lawton, M. W., Middletown, Conn.
Leonard, F. A., Taunton, Mass.
Mabbett, Frank A., Mystic, Conn.
Mahoney, T. H., Westfield, Mass.
Mahoney, W. C., Peabody, Mass.
Mansfield, Lucius R., Reboboth, Mass.
Martin, Frank F., Cohasset, Mass.
Meunier, Frank, East Hartford, Conn.
Miller, Dean H., Ashland, Mass.
Moore, Edwin D., Bennington, Vt.
McCarthy, Charles L., Worcester, Mass.
McLaughlin, Daniel F., East Providence, R. I., (Ex-Chief).
McGrath, Patrick J., Meriden, Conn., (Ex-Chief).
Melendy, Albert C., Nashua, N. H.
Mercier, Solomon A., Rumford, Maine.
Miguel, Manuel S., Manchester, Mass.
Milne, George B., Rockville, Conn.
Minehan, Edward C., Marlboro, Mass., (Ex-Chief).
Moran, John C., Hartford. Conn.
Murray, John, Monson, Mass.
Neary, John H., Natick, Mass.
Nelson, George L., Groveland, Mass.
Newman, Frank C., Melrose, Mass.
Nichols, Daniel A., Barrington, R. I.
O'Connor, James F., Everett, Mass., (Commissioner).
O'Hearn, John W., Watertown, Mass.
O. O. Ordway, Reading, Mass.
Pachl, John S. (Annex) New Haven, Conn.
Palmer, John A., Torrington, Conn.
Parker, P. Hildreth, Boston, Mass.
Philbrook, George A., Middleboro, Mass.
Purtill, Joseph, Pawcatuck, Conn.
Qualey, Thomas, Medford, Mass.
Ranilette, J. W., Richmond, Maine.
Reif, Lawrence E., New Haven, Conn.
Reddy, Edward N., Clinton, Mass.
Reynolds, C. A., Willimantic, Conn.
Ricker, Eugene T., Biddeford, Maine.
Robertson, Ralph C., No. Attleboro, Mass.
Rocco, John J., Everett, Mass., (Commissioner).
Sanborn, Oliver T., Portland, Maine.
Sargent, F. M., Sunapee, N. H.
Savage, John A., Valley Falls, R. I.
Sennott, Daniel F., W. Roxbury, Mass., (Ex-Chief).
Shannon, Walter E., Wakefield, R. I.
Shaw, Daniel T., Rockland, Me., (Ex-Supt. Fire Alarm).
Shepard, W. C., Pittsfield, Mass.
Sibley, F. H., West Springfield, Mass.
Skelton, Walter W., Burlington, Mass.
Slaman, T. H., Wellesley, Mass.
Smith, Geo. W., Wakefield, R. I.
Soper, Arthur E., Mansfield, Mass.
Spooner, Edw. G., Jr., Fairhaven, Mass.
Stewart, Preston B., Hopkinton, Mass.
Stockwell, Carl, Burlington, Vt.
Stowe, Lewis F., Milford, Conn.
Sullivan, Francis H., Lawrence, Mass.
Sullivan, Jeremiah F., Fall River, Mass.
Sullivan, James E., Lowell, Mass.
Sullivan, John E., Plymouth, Mass., (Ex-Chief).
Sprague, M. E., Leicester, Mass.
Taft, Henry H., Norwich, Conn.
Taylor, Edward W., Lexington, Mass.
Tierney, Daniel B., Arlington, Mass.
Titus, William E., Pawtucket, R. I.
Tappen, Robert M., Gardner, Mass.
Tracey, Frank E., Woburn, Mass.
Viles, Walton W., Raynham, Mass.
Wallace, Geo. M., No. Providence, R. I.
Walsh, Peter E., W. Roxbury, Mass., (Ex-Chief).
Warnock, James, Swampscott, Mass.
Weekes, Reuben, Providence, R. I., (Ex-Chief).
Welch, William F., Lynn, Mass.
Whipple, N. W., No. Cumberland, R. I.
White, Frank M., Guilford, Conn.
White, Herbert P., Groton, Conn.
Wiltse, James R., East Haven, Conn.
Woodward, A. P., Danielson, Conn.
Yelland, Fred W., West Newton, Mass.
Young, Daniel F., Cranston, R. I.
Zeigler, William, Hackensack, N. J.

Ill., showed firemen's and policemen's coats. I. Arthur Luft was in charge of the booth.

John Voleske, of the Voleske Tool Company, of Portland, Oregon, showed a patented cable shears and bar cutter which is designed as special equipment for fire department rescue squads and ladder trucks.

The Lovell-Dressel Company, Inc., of Arlington, N.J., exhibited the Gilson all angle fire fighting tools and nozzles and the Gilson water curtain and spray nozzles.

Excello rakes, a new forestry tool, were shown by Roy S. Fritz, of the Han D And D Tool Company, of Quarryville, Pa.

The Aetna Mfg. Company, of Providence, R. I., showed the new safety tank for range burners for kitchen use. This is a metal tank burner which has an automatic shut-off device to prevent flooding in case of clogging by sediment. John Scheminger Jr. and Thomas F. Burke were in charge of the exhibit.

This Group of Young Newporters Took Part in the Convention Demonstrations with a Pumper of Their Own

The Boston Coupling Company showed nozzles, valves, etc. made by the Akron Brass Mfg. Company. John J. Barker and C. H. Barker were in charge.

The Day Metal Hose Bridge for carrying traffic over fire hose without damaging the hose was displayed by Gus L. Day, of Mendham, N. J.

The Arthur H. Blanchard Company, of 25 Hampshire Street, Cambridge, Mass., New England agents for the Boston Woven Hose and Rubber Company, showed fire department hose, fire supplies and accessories, and Northern forest fire pumps and Pacific Marine Pumps. A. H. Blanchard and Andrew F. Deibel were in charge, assisted by Edward O'Neill.

The Mine Safety Appliance Company, represented by Captain Alfred Kinsella, displayed the Burrell All Service Gas Masks, the McCaa oxygen mask, and the H and H inhalators.

The Lux Fyre Freez Company showed Fyre Freez extinguishers and the Fyre Freez chemical tank conversion, also the Aqua lux water extinguishers. Harold W. DeVeer was in charge and showed motion pictures of fires being extinguished by Fyre Freez.

The Pyrene Manufacturing Company, of Newark, N. J., showed Pyrene and Phomene extinguishers, a new pressure type Pyrene, and 5 gallon pump tanks. E. F. Fallon and Paul Northrop were in charge.

FIRE ENGINEERING and the Case-Sheppard-Mann Corporation were represented by I. Herbert Case, Vice-President and General Manager, and by W. J. Gibson, Advertising Manager. Copies of the June FIRE ENGINEERING were dis-

played; also leaflets describing the technical books published by the firm.

The magazine *Sports Afield* was the only other publication represented by a display in the exhibition hall..

The Stamnite Company of New England exhibited "Stamnite" products, including acid resisting paints for ladders, battery racks, and apparatus. H. L. Sanborn and H. W. Shropshire were the representatives in charge.

The Fabric Fire Hose Company displayed various types and sizes of fire hose. Robert Wood and Philip Wood were in charge.

The Gorham Fire Equipment Company, of Boston, showed pump tanks and fire department supplies including name plates for chiefs' cars and the Atmos inhalators, Atmos fire helmets, King Lite, and Davis gas masks. Joseph T. Gorham was in charge.

A. L. Neidner, of the Charles Neidner's Sons Co., of Malden, Mass., exhibited the Red Chain forest fire hose.

A very handsome and attractive display of badges and fire chiefs' insignia was shown by the C. G. Braxmar Company, of New York. The firm was represented by J. O. Veit.

A. W. Clifford, of the Interstate Shur Line Company, of Providence, R. I., exhibited Shur Stop wall and ceiling type fire equipment. The booth was decorated with George Washington Bi-Centennial Banners and pictures and signs calling attention to the Shur Stop equipment used in George Washington's headquarters in Valley Forge and in the Mary Washington house in Fredericksburg, Va.

The National Carbide Company, of New York, showed carbide lights and oxy-acetylene cutting outfits of the well known Airco Davis-Bournonville type. R. C. Holcomb and G. T. Mehaffey were in charge.

Andrew J. Morse & Son, Inc., of 221 High Street, Boston, Mass., displayed a line of Invincible nozzles and Morse portable deck pipes and wagon guns.

The type of fire alarm boxes used by the New York Fire Department were exhibited by the Horni Fire Alarm Signal Company.

Other exhibitors were the Eureka Fire Hose Manufacturing Company and the Sexton Can Company, of Everett, Mass. The latter firm showed the Ajax Safety Incinerator.

The exhibit hall was decorated with blue and yellow streamers. The Committee in charge of arranging for the Exhibits was composed of Chief Thomas Almond, of Central Falls, R. I.; Chief James W. Barker, of Middletown, R. I.; Chief Arthur A. Griswold, of East Providence, R. I.; Chief John A. Savage, of Valley Falls, R. I.; and Chief Joseph S. Lawton, of Newport, R. I.

Illinois Course Draws Record Attendance

A large number of students enrolled for the eighth annual fire college that was held at the University of Illinois, Champaign-Urbana, June 21-24, under the auspices of the Illinois Firemen's Association. Previous to the school, the Chamber of Commerce of the United States sent out a letter to all Chambers of Commerce in Illinois urging city officials, firemen and others to attend. It is believed that this may have helped to bring the registration up to 416.

As each person registered, he was placed in either the red, white or blue group, and he was given both a badge and number. Each group was under a leader. A diploma signed by officers of the Illinois Firemen's Association and the Director of the College was issued to each one who attended fifty per cent of the meetings and who participated in the work.

The committee which prepared the program of the college consisted of S. L. Legreid, State Fire Marshal; Clarence Goldsmith, Assistant Chief Engineer, National Board of Fire Underwriters; Harry K. Rogers, Chief Engineer, Fire Prevention Department, Western Actuarial Bureau; Fred P. Haderlein, President, Illinois Firemen's Association; Roy W. Alsip, Secretary, Illinois Firemen's Association; L. H. Provine, Director of the College.

The groups were in charge of Chief J. W. Just, Fire Department Instructor, Illinois Inspection Bureau; Capt. Hugh Ousley, Fire Department Instructor, Missouri Inspection Bureau, St. Louis, and Harry K. Rogers.

In addition to the special training that the students received at the drill tower and the group instruction, there were a number of special lectures.

William S. Rathbun, Engineer, National Board of Fire Underwriters, spoke on building construction. C. W. Smith, Director, Safety Department, Standard Oil Company of Indiana, lectured on gasoline. "Unusual Fire Casualties" was covered by Frank C. McAuliffe, Chief of Fire Insurance Patrols, Chicago. Harry F. Tapp, Executive Secretary, Oil Heating Institute, New York, N. Y., spoke on "Oil Burners." Thomas E. Ryan, Chief 11th Battalion, Chicago Fire Department, lectured on "Practical Fire Fighting" and Mr. Rathbun spoke on "Common Fire Hazards and Demonstrations."

The school was started in 1925 with a registration of 219. Each year the popularity of the school increased and last year 324 persons enrolled for the short course.

Southern California Chiefs Meet

A meeting of the Southern California Fire Chiefs' Club was held at Pine Knot, Big Bear, on June 25 and 26.

John Colton of the Board of Fire Underwriters touched on the relation of insurance reductions possible through the purchase of fire equipment, and the regulation of building conditions. He stressed the fact that, although the fire defense system of a city might be very good, structural conditions might be of such a nature as to prevent the city from enjoying low insurance rates.

Chief Ralph J. Scott of the Los Angeles Fire Department reported on the question of odorization of natural gas to eliminate certain hazards in connection with its use. Chief Scott stated that public utilities everywhere had been more than willing to cooperate with the fire service in this regard.

An interesting paper on various types of fire alarm systems was presented by Mr. Johansen of the Gamewell Company.

Chief David F. Glines, South Gate, reported as Chairman of the committee to make a survey of first aid training being carried on by fire departments of Southern California.

Chief Frank Wilcox, Culver City, reported for a committee appointed to study legislation to do away with the hazards of home dry cleaning. The committee reported that the best plan is to have individual cities pass the required ordinances. A sample ordinance was distributed.

A talk on the state compensation insurance law was given by Frank Agnew.

Big Bear Valley, an interesting scenic spot, offered much in the way of sightseeing, and the city of Pine Knot did everything to make the meeting a success.

They Do Things in a Big Way Down in Texas!

This picture was taken on the occasion of a trip made by State Fire Marshal Jay W. Stevens, of California, (center) recently to Dallas, Tex. As Chief Stevens is six feet in height and weighs 210 pounds, the photograph gives evidence that the two Dallas officers are "he-men." Referring to what has been accomplished by them for the department, Chief Stevens writes: "Chief Rod Gambrell (right) has made good since his appointment a year ago and Assistant Chief Wert Wolfe (left) is a worthy assistant, having organized a firemen's school, where good work is being done. In addition, they have constructed a new drill tower and made other improvements which have brought about quite a reduction in fire losses."

THE ROUND TABLE

For Practical Discussion of Current Fire Department and Fire Management Problems

COMMUNITY AFFAIRS AND POLITICS

MODERNS consider the city government in the same class as a corporation—the voters are stockholders and the city officials are duly elected officers of the company.

It is not, therefore, unreasonable to expect one officer to participate in extra activities if they are for the common good, or for a stockholder to call on an officer for cooperation.

Fire Chiefs, in the light of this analysis, are officers. They are expected to some extent to participate in matters outside of the province of fire-fighting. They are called upon to speak at civic luncheon clubs, to help Boy Scouts pass certain tests, to cooperate in planning for community welfare, to help the Chamber of Commerce, and to do countless other extra-departmental tasks.

But if a Fire Chief, does all that is expected of him, and is active in the many organizations mentioned, he may find himself drawn into the mesh of politics, unless he is very, very careful. And politics is poor food for the development of the Chief.

In the box on this page is the problem in full that is treated in this issue. In the box on the following page is the question that will be discussed in the next issue. Should you have some comments that you would like to add to the next discussion, you are invited to write to the "Round Table Editor," FIRE ENGINEERING, 24 W. 40th Street, New York, N. Y. The replies received follow:

Discussion of the Question

Ralph J. Scott, Chief, Los Angeles, Cal.: This Fire Department has not, I hope, become unduly involved politically on account of its active participation in community affairs. Such a participation has been considerable of late years, principally on account of the desire of the department to lend a hand in giving aid to needy individuals and families during the current economic distress. In this work the department has done a great deal, which I believe has been of benefit to the citizenry as a whole. We have, in the past several years, taken on several projects—the management of an apple-selling campaign for the unemployed, the solicitation of food, clothing and money through personal fields, the press and over radio stations, and with the material and funds secured, we have opened and carried on a warehouse and were responsible for the proper distribution of the articles to the poor of the city; we have, over a considerable period of time, contributed a percentage of salary to a fund designed to give employment to citizens most in need of it. We have assigned several members of this department to the work of segregation of applications and assignments of jobs. We have made of every engine house, a registration point for the reception of applications for work.

The Fire Department Band and Orchestra are available for civic events where their services are needed. In these activities, it is true, we have taken particular pains not to become involved in political liabilities. I think we have succeeded fairly well, and I have no regrets as to the course pursued by the department in these activities. I have seen several situations in which danger of political entanglement appeared possible, but the department was able to avoid anything of this character, which I would regard as at all serious.

I believe that the Fire Chief should not draw the line of his activities too closely. I have from the first of my official experience endeavored to take an active part in the doings of such organizations as the well known service clubs, chambers of commerce and other civic institutions. I believe that the maintenance of close touch with such organizations is a very good thing. I have an opportunity to receive at first hand the views of these leaders on matters pertaining to the Fire Department, such as pension revisions, salaries or other matters. Every chief officer must naturally be his own judge as to how many activities he will subscribe to. For the first few years of service as head of the department, my physical limitations were perhaps the only restriction I recognized in my effort to keep in touch with what was going on.

I have found unquestionably that political affiliations help in securing increased budget allowances—the wheel that squeaks the loudest is the one that gets the most grease. The more I can express my Fire Department views to these groups of public-minded men, the more likely these men are to see Fire Department problems from the fire executive's viewpoint. Practically every man is receptive to suggestions along lines in which he does not and cannot be expected to know a great deal from his own experience. I feel quite certain that were it not for these contacts, many improvements which the department now has advantage of, such as fire boats, salvage service, additional companies and equipment might not have been so readily secured, except through the cooperation of these service groups of various character.

I do not wish the conclusion to be drawn that I am in favor of the department actively entering partisan politics—the Chief or any one else attempting to throw the political strength of the department to any particular candidate or partisan measure. Our political activities have been confined to measures designed for the upbuilding of the Fire Department only.

John W. McCarthy, Chief, Corning, N. Y.: I find that active participation in community affairs, that phases involving Red Cross, Chamber of Commerce, American Legion, relief and humanitarian work, have been met with much appreciation, and in no instance has politics been a party to such cooperation, either on the part of the department or others. The political slate is kept clean in these matters and I find a forceful public spirit that prompts action which is always welcome.

HERE IS THE PROBLEM

Do you find that too active a participation in community affairs results in becoming involved politically?

How much activities should a Chief join outside of his department work?

Do you feel that political affiliations help in securing increased budget allowances? Why?

I believe a Fire Chief should participate in activities to the same degree as any city official or public citizen, but he should always be in mind of his first obligation—his duty to the public. His official capacity comes first because he is responsible to the public. His personal affiliations should be in keeping with the necessary civic pride—perhaps more so than the average citizen.

It has never been our plan to solicit or depend upon any political influences to aid in securing increased budget allowances. Our form of government, involving men of both leading political parties, coupled with the fact that politics in this department has not been a factor of successful operation, precludes any desire or evidence of its appearance in proper functioning of the department.

W. R. Williams, Chief, Fresno, Cal: I believe that too active participation in community affairs results in becoming involved politically. There are so many divers opinions that if the Chief should take a positive stand, particularly on things not pertaining to the fire service, it would eventually involve him in political entanglements which might become exceedingly difficult.

I believe that the Chief should only join in such community affairs outside his department that he is particularly requested to do and then only when in his judgment he feels that it will not involve his department politically.

I do not believe that political affiliations help in securing increased budget allowances because assistance from a political source will be opposed by other officials who politically are opposed to friends of the Chief.

I believe that the Chief Officer should study his individual conditions thoroughly and make up his mind from this study. If the Chief thoroughly understands his problem I believe that he will be able to convince the city authorities of the importance of his recommendations. I do not favor the so-called plan of "padding" budgets.

John G. Ford, Chief, Trenton, N. J.: Interest by firemen in community affairs affords the opportunity of enlightening the public regarding the work they are engaged in and permits them to offer suggestions for the general safety of the citizens. By better understanding the protective work of the Fire Departments and what their thoroughness and efficiency means to public safety, interest and regard are naturally strengthened, and the cooperation that results is of decided benefit to everybody.

Enough activities should be followed to permit a spirit of cooperation to be created.

We have the Commission form of government and the Commissioners recognize the value and importance of capable departments and they act accordingly.

John W. O'Hearn, Chief, Watertown, Mass.: All community affairs should have the support and cooperation of not only the Chief but the entire department, as I know of no department in the service of the public, that is of more importance to the community than its Fire Department. We serve the whole community, not any political portion of it. We can still be active in community affairs without becoming involved in politics. Community and civic affairs can and should be removed from political activities.

The Chief should join in every possible activity of his community outside of and in addition to his department work. He should be a member of Civic Clubs, Service Clubs, Chamber of Commerce, School Associations, Charitable and Fraternal Associations. He should attend meetings of these organizations and through them sell his department and himself to the community.

Too many communities do not know who the Chief of the Fire Department is, and they only see him when they are in trouble. Don't wait for trouble. See your people more frequently and help avoid misunderstanding. Keep out front!

HERE IS THE PROBLEM FOR THE NEXT ISSUE

What regulations must oil companies follow in transporting gasoline through your city streets in tank trucks?

What steps must the driver take when discharging his load, to prevent fires by men smoking?

Should the city have certain hours when the transportation of gasoline is forbidden? Which hours?

Political affiliation and political activities are quite different. A Chief should, of course, have political affiliations as should all good citizens. He should not, however, in any way use his political affiliations as an aid in securing increased budget allowances. We are not serving any political division of our communities. We are serving the whole community irrespective of political activities or beliefs.

William J. Lutz, Chief, Wilmington, Del.: The cooperation between the various clubs, community centers and civic clubs is of the highest order and the benefits derived from these organizations by attending their meetings, bring out some very valuable points in Fire Prevention and fire fighting.

Any Chief should become affiliated with other activities in order to secure recreations and pleasures. The important thing is for the Chief to have the time.

Such affiliations have never been required in this city to secure increased funds. The Directors of Public Safety each year confer with the Finance Committee of the City Council when the budget is being arranged. No political relations exist with the Fire Department in this city.

F. C. Brown, Chief, Grand Island, Neb.: I do not believe that the Fire Department should mix into community affairs.

It is well to belong to the Chamber of Commerce, but the Chief should not take part in other affairs. If he does, he will be drawn into politics sooner or later. He has enough to do if he looks after the interests of the department.

Political affiliations do not help in getting better budgets for Fire Departments. Only by educating the public as to the needs of the department, will he help to do this. It can be done by using insurance rates classifications, and by staying out of politics.

J. N. Sullivan, Chief, Utica, N. Y.: I find that the more active a participation in community affairs a Chief takes, the less likely he is to become involved in politics, unless he desires to become so involved. Too many Chiefs are inclined to be "yes men" to political pressure, instead of definitely representing all of their citizens.

The Chief should participate in all community activities in which he could be of service, except politics. He should, if possible, be a member of one of the Service Clubs of the Chamber of Commerce, Safety Councils, and should identify himself with community drives and so forth. In so doing, he has an opportunity of selling himself and his department to the people as a whole, and incidentally, make politicians have a definite respect for him and his prestige.

Political affiliations have never been of any help in securing increased budget allowances, although I can see such a possibility might exist where one political party is in power all of the time.

James Welsh, Chief, Eau Claire, Wis.: A too active participation in community affairs may involve a Chief in an unpleasant situation. It is well to avoid any possible complications of this nature.

Become interested in such work as the Kiwanis or Rotary Club as related to the under-privileged child, vocational guidance, the Boy Scouts and the like.

Political affiliations may help as long as you are on the right side of the fence. Beyond that you are in no man's land. Steer clear!

Arthur Rahn, Chief, Two Rivers, Wis.: The chief should belong to one or two fraternal organizations and to a group like the Rotary or Lions Club. Boy Scout work is always a safe course.

If the individual's appointment and position depend on the party in power, political affiliations would be a fine thing. In Wisconsin, however, the Chief is under Civil Service, and in my opinion he can get best results in regard to his budget and his department by being as neutral as possible.

William H. Wayand, Chief, Scotia, N. Y.: I believe it is a good thing for a Fire Department to participate in community affairs when the objects are for the benefit of the public. Such activities in our village have had

no political connection. I feel that a budget for a Fire Department should be based on its absolute needs and should not be altered for political reasons.

W. J. Gates, Chief, Glens Falls, N. Y.: I don't believe in mingling with politics in any way whatsoever. A Chief should not have outside activities unless they are directly connected with the department. I believe that every Fire Chief should stand on his own foundation.

A. B. Russell, Chief, Cleburne, Tex.: I have participated in community affairs ever since I have been Chief and I believe that every Chief should participate in activities that have no bearing on politics.

I don't believe a man ought to over-do himself because you can take things to excess. Just do enough for recognition in local civic affairs.

Political affiliations will increase the budget because in unity there is strength.

W. C. Green, Chief, Concord, N. H.: I find that departmental affairs take all of my time. My opinion, however, is that I will never attempt it as I can see what it could lead to. Outside activities are forbidden here.

Political affiliations do not apply here. The Fire Board receives an estimated budget from the Chief. This is reviewed by the Board and changes made if deemed necessary. The matter is then placed before the city government. No politics are injected into this matter, directly or indirectly.

W. J. Mohr, Santa Monica, Cal.: A Chief cannot be too active in civic affairs but he should remember to be broad minded and honest.

He should be an outstanding man of his city, joining the groups that are working for good citizenship, and be one of the leaders or officers if possible. He should establish himself in the hearts of his friends.

Political affiliations do not help the Chief. Where a satisfactory program is not set up by the Chief, the average politician usually secures that thing that is not necessary or makes for an efficient Fire Department.

S. C. Boaz, Chief, Henrietta, Okla: I believe that very few Chiefs have time, aside from their department duties, to devote to community work. A Chief may work with the Chamber of Commerce, Rotary, Lions, Kiwanis and non-political groups with good results. There is nothing to be gained through politics and every fireman should keep out of political work.

M. P. Burns, Chief, Tyler, Tex.: I find that too active a part in social and political affairs, handicaps any Chief. I am opposed to any kind of politics in the Fire Department, for politics and efficiency do not work together.

A Chief should engage in any outside work as long as it promotes fire prevention. I do not believe political affiliations help to do anything except create discord and destroy efficiency.

William F. Hall, Chief, Plainfield, Conn.: A Chief should be very careful in accepting important positions in the activities of community affairs. It should be distinctly understood that the office of Fire Chief comes first—not only in case of fire, but at committee and regular meetings. Political affiliations help increase the size of the budget.

Harry Hutton, Chief, Salem, Ore.: Too much community work may result in politics. A Chief should only participate to the extent of betterment of the department. Budgets are increased by political affiliations.

John H. R. Meyers, Chief, Madison, N. J.: A Chief should participate in anything that is for the benefit of his department and town, and no more. If the Chief knows his line and has plenty of back bone, he generally gets what he asks for.

William Briggs, Chief, Shelbyville, Ind.: Politics won't fit in any place, but a good civic organization helps.

Frank Charlesworth, Chief, Providence, R. I.: Too active a participation in community affairs is apt to involve a Fire Department in politics. To confer occasionally with members of a community club organized regarding fire prevention or protection might be proper, but too much intimacy, is, in my opinion, not wise.

A Chief should be very careful about engaging in activities outside of his department work because of the possibility of becoming involved in a manner that would not be for his best interests or the department that he represents.

Increased budgets obtained through political affiliations are very unsatisfactory. A budget should be prepared to meet the actual requirements of the particular conditions existing in a city, and to inflate same through political means is very likely to cause a reaction against those involved.

George W. Searles, Chief, Pana, Ill.: Too active participation in politics endangers the personnel of the department. Booster or golf clubs or community activities are desirable if they can be carried on without interference with one's office. Fire Departments have no room for politics.

A. B. Horney, Chief, High Point, N. C.: The Chief should take part in all activities of the Boy Scouts, Parent Teachers meetings and so forth in connection with fire prevention work. He should get before all civic and luncheon clubs he can.

The less political activities the chief has, the less politics he gets in his department, the better off he is. Politics will demoralize a Fire Department.

John D. Cole, Chief, Rochester, Pa.: The Chief should not participate in any more community affairs than is possible. In some cases, politics can secure larger appropriations but for the best interest of the Chief and the department, keep out of politics as much as possible. My motto is to attend to your fire duties and to let the politicians look after the politics.

John Bolender, Chief, Lancaster, N. Y.: A chief should join as many activities as his spare time will permit. Budgets cannot be increased by politics.

J. R. Eldridge, Chief, Johnson City, N. Y.: Politics follows too active participation in community affairs. Work in his own department, will keep the Chief busy.

George Hoherd, Chief, Temple, Tex.: The Chief should participate but little in community affairs, as it may result in political entanglements.

J. F. Noll, Chief, Harrisonburg, Va.: Active participation in community affairs leads to politics. The Chief should keep away from such matters.

Pup Boat Carried by New York's Latest Fireboat

The "John J. Harvey," the newest of the fireboats in service in New York City, carries a pup boat so that streams can be played underneath docks and other points that would be inaccessible to the larger boat. The photograph shows the pup boat in action.

Justice Asked for Chief Ringer

The following letter has been sent to Mayor William A. Anderson, of Minneapolis, Minn., by Ira G. Hoagland, Fire Protection Engineer, of New York City:

June 27, 1932

Hon. William A. Anderson, Mayor, Minneapolis, Minn.

Honorable Sir: It is causing widespread surprise throughout the country that as capable a chief officer of a Fire Department as is Chief Ringer has been summarily removed from office because of alleged inefficiency and other incapabilities.

For as long a time as I have known Chief Ringer, which covers a period of 20 years, he has been in the front rank of fire department chief officers in North America, and such an arbitrary removal from office as has been reported certainly does not reflect any credit upon the city of Minneapolis.

When the Chief of a Fire Department has ability enough to become an outstanding international figure in the field of his profession, such as Chief Ringer has been for many years, this is something of which the city of Minneapolis should be very proud.

It is certainly to be hoped that the city of Minneapolis in justice to itself will see to it that Chief Ringer is reinstated to his former position.

Yours cordially,

IRA G. HOAGLAND.

Questions and Answers

NOTE—Readers are invited to send in questions, which will be answered in the order received. Names are omitted from questions unless otherwise specified

Heating of Water in Booster Lines

To the Editor:

In Questions and Answers of the July issue, FIRE ENGINEERING, under the above heading, B. F. J. asks about water heating in a booster line. The pumper in question is evidently equipped with an auxiliary cooler for the motor, consisting of a cylinder containing copper tubes, through which the water in the cooling system passes. When the pump is in operation, water is circulated from the pump around tubes in the cylinder and back to the pump, in order to keep the motor cool.

If the booster line is used and the main line is shut off a great deal of the time—which is often the case—the water will by-pass through the pump and cylinder and will become heated.

Very truly yours,

LESLIE S. WIGGIN,
Chief Fire Department, Franklin, Mass.

Placement of Engines in Relay

To the Editor:

In a layout in which it is necessary to use a very long hose line and which would appear to need two pumpers, where one pumper is of considerable less capacity than the other, one at the hydrant the other say 1,000 feet toward the fire, which would be the correct placement of the pumps and why?

H. T. D.

Answer: If there is good pressure at the hydrant, and it is desired to place the second engine about the middle of the line, then the small engine might be placed at the hydrant and the larger engine in the center of the line. On the other hand, if the hydrant pressure were low and the second engine were to be placed nearer to the nozzle than to the first hydrant, the larger engine would be placed at the hydrant and the smaller in the line.

Calculating Deck Pipe Problem

To the Editor:

Does the formula $2 \times Q^2 \times Q$ as applied to friction loss prevail in this case?

Problem—What is the discharge, N.P. and Friction Loss of hose wagon with 2" tip, 100 ft. lead, 3 2½-inch lines siamesed, 150 lbs. pressure; assuming the discharge is 1,470 gals. per min.?

B. R.

Answer: There are some figures in your problem which are missing, and which are necessary to any solution. However, the method for solving the problem will be indicated, and you can then insert the figures as required, and complete the calculations.

The 150 pounds pressure you give, must be the nozzle pressure, for a 2-inch tip at 150 pounds pressure discharges approximately 1,470 gals per minute.

The diameter of the lead line is not stated. It will be assumed to be 3½-inch.

The lengths of the 2½-inch parallel lines are not given.

The method solution is as follows:

First change the 3½-inch hose to 2½-inch. This is done by dividing by the conversion factor 5.8.

Next change the 3 parallel 2½-inch lines into a single line of 2½-inch hose by dividing by 7.75, which is the conversion factor in this case.

Then add the two lengths of 2½-inch hose so secured to get the equivalent length of a single line of 2½-inch between engine and wagon.

Solve for engine pressure by use of Underwriters' formula:

$E.P. = N.P. \times (1.1 + K\ L)$.

Nozzle pressure is 150 pounds.

"K," for 2½-hose, and 2-inch nozzle is 1.55.

"L" is the number of 50-foot lengths of hose in the line, and is secured by dividing the length of single 2½-inch line between the engine and the wagon secured as above described, by 50.

After you have the engine pressure, you must add to this the equivalent back pressure represented by the head of water in the wagon piped above the ground. It is assumed that the tip of the nozzle on the wagon pipe is 9 feet above ground. Then the back pressure which you will have to add is $9 \times .434$ or 3.9 pounds. This gives the correct engine pressure.

The friction loss in the line may be secured by the formula you give; the friction loss in 100 feet of 2½-inch hose $= 2 \times 2 \times 2 + Q$. Or it may be secured by directly subtracting the nozzle pressure from the engine pressure, which is the more accurate and more easily attained.

Factors for Small Lines

To the Editor:

What is the factor for changing two siamesed inch and one-half lines into two and one-half-inch hose.

In this department we use 2¾-inch hose with the 1½-inch for inside work, and I would like to know the factor for this.

B. O.

Answer: The factor for two parallel lines of 1½-inch rubber lined hose may be secured by multiplying the factor for changing a single line into 2½-inch hose by the factor for changing two parallel 2½-inch lines of hose into a single line of 2½-inch hose.

The factor for changing a single line of 1½-inch hose into 2½-inch is 0.074.

The factor for changing two parallel 2½-inch lines of hose into a single 2½-inch line is 3.6.

Hence the factor for changing two parallel 1½-inch lines of hose into a single 2½-inch line is 0.074 x 3.6, or 0.2664.

Carbon Tetrachloride Gases

To the Editor:

What is carbon tetrachloride made of (ingredients)?

What kind of gas is generated?

What happens when this gas comes in contact with heated metals?

What gas is formed?

Any information on the above will indeed be appreciated.

K. J. G.

Answer: Carbon tetrachloride is a chemical combination of carbon and chlorine.

The gases and proportions thereof given off by decomposing standard carbon tetrachloride on wood fires are as follows: oxygen, 15.5%; carbon dioxide, 4.6%; chlorine, nil; carbon monoxide, nil; sulphur dioxide (present only when carbon disulphide is present in liquid); hydrochloric acid, 0.16%.

On petroleum fires the gases thrown off or created by carbon tetrachloride are: oxygen, 19.4%; carbon dioxide.

1.5%; carbon-monoxide and chlorine, nil; hydrochloric acid, 2.08%; phosgene, 2 parts per million. The above percentages are percentages of dry gas, in per cent present in volume. When any of these gases come in contact with heated metal, no material chemical action takes place, such as might endanger the lives of men. However, when carbon tetrachloride is discharged on hot iron, chlorine gas is created which may have a concentration 10 to 23 parts per million.

TESTS MADE ON USING PUMPER TO FORCE AIR TO FACE MASKS

Cool Air Supplied by Pumper Permits Wearer to Remain Near High Temperatures With Greater Comfort and More Safety

By Scott Power
Chief of Fire Department, Zanesville, Ohio

NAUSEA and resulting illnesses are the bugaboo of firemen in entering smoke-filled buildings although the fires are of minor consequence. In a great number of cases we have seen brave men dragged unconscious from buildings where the fire loss was but a few dollars. Many firemen annually lose their lives or are permanently disabled by lung disorders resulting from entering smoke-filled buildings without adequate protection.

After returning from one fire, which in itself was of no great consequence as the fire loss was low, and after talking with a fireman-patient at a local hospital who was overcome by smoke in the interior of a smoke-filled building, I conceived the idea of furnishing fresh air by operating the water pump on fire apparatus to force air to the wearer of a gas mask. This idea was developed after consulting First Assistant Chief Hatfield and Master Mechanic Spring, who were instructed to make tests on the possibility of using the pump on fire apparatus to force air through a half-inch non-kinkable hose connected to a mask worn by a fireman entering a smoke-filled building. The results of the experiment exceded our expectations.

These experiments were made with rotary gear pumper of 750-gallons capacity. The first step was to ascertain the amount of air pressure that could be developed from the pump. A mercury gauge registered between 45 and 50 pounds pressure. We secured three different sizes of fittings, one with a single opening, and two that were siamese. One fitting was to be used on the 2½-inch opening and the other to be used on the tip of the 1¼-inch nozzle. A length of one-half inch non-kinkable hose was used for the air lines. We found in the experiment that we could use gas masks that had been abandoned on account of ill-fitting face openings and that they could be worn in the smoke area as the air pressure would drive the soke from the mask. A valve was placed on the belt of the gas mask so that it could be conveniently reached and adjusted by the wearer. The investigation showed that there would be no trouble with moisture collecting on the lens of the mask.

The first layout of the air lines was a hundred feet, and then three hundred feet, and we found that the 300 feet length with one pound air pressure at the pump provided an abundance of air for two masks.

We found that when the air was turned on into the one-half inch line, there was enough back pressure to form an air cushion for the gears. We made these tests so as to find out if there was any heating of the bearings or the gears. We found the air was always of sufficient temperature to keep them cool.

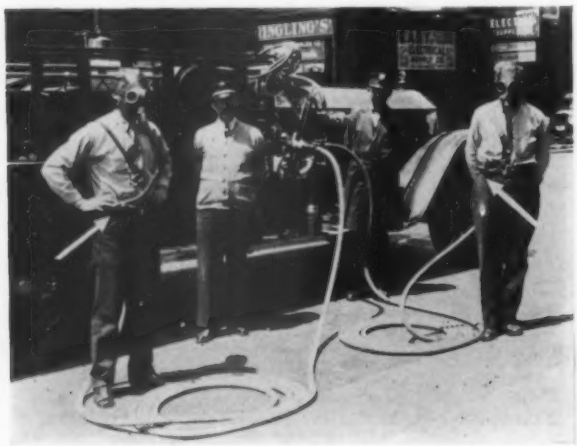
One of the most pleasing things concerning the investigation was learning that best results were obtained by operating the engine and the pump at low throttle, and that one pound of air on the pump would be all that was necessary to successfully operate at any time.

We took one of our trucks, placed it in a building and started the engine, filling the room with smoke of such density that vision was completely obscured. Members of the department entered the room and remained there for one-half hour and at no time could they detect any odor of the exhaust.

We laid out a hundred feet of 2½-inch cotton hose and ran it along the gutter. This was to protect the hose to prevent any danger of anyone driving a vehicle over it. We found the operation successful. Many times hard suction can be used to secure fresh air at a distance from the truck so that exhaust of the engine will not be drawn into the pump and be mixed in the air to be sent to the gas mask.

We have found there has always been a certain amount of fear in the use of filter type gas masks, but in the use of the pump providing fresh air from outside, the men have no hesitancy in using the masks. We know that when using the filter type masks a man can only work at intervals when it comes to cutting holes through floors, but when wearing the mask with air furnished from the pump, they can work for an unlimited time.

We found that a fireman wearing the mask could remain in a building longer even when the heat was intense. Air from the pump tended to keep the face cool at all times.



How the Air Lines Are Connected

The arrows indicate the position of the valve that the wearer of the gas mask manipulates to secure air at pressure for the most comfort.

Seven Firemen Killed in Ritz Tower Blast

As we go to press word has been received that another fireman injured in the explosion resulting from a small fire in the sub-basement paint shop of the Ritz Tower, a forty-one story apartment hotel in New York City, on August 1, has died, bringing the casualties up to seven killed and over thirty firemen, policemen and citizens injured.

A full account of this fire will be given in the next issue of FIRE ENGINEERING.

Laboratories' Labels on Electric Cord

Fires from defective or substandard flexible cord for lamps and other portable electrical household devices are of very frequent occurrence. Until recently there has been no way for the uninitiated to tell a safe cord from a dangerous one because standard cord has always been labeled in bulk and the short length sold with the device has nothing to identify it. The fact that there is much cheap and flimsy cord on the market, largely of foreign make, has led manufacturers to place a small removable label of Underwriters' Laboratories at five foot intervals throughout the entire reel of standard cord, certifying to its safety. As the length sold with any lamp, flat iron, toaster or whatnot, always exceeds five feet, the purchaser is sure to get one or more labels and can rest assured that the cord may be used without danger.

New York Firemen Fight Pay Cut

Members of the Uniformed Firemen's Association, New York City, are against the proposal of Mayor Walker that the city employees should take a voluntary cut in pay. City firemen received substantial pay increases in 1929 and belief is prevalent that refusal of the men to take the pay cut would force the Mayor to request the legislature to make the reductions possible.

WHAT'S BURNING

THE following list includes fires of $25,000 loss and over in the United States and Canada, for the month of July. These figures, compiled from telegraphic reports are based on estimates made at the time, and are subject to later investigation and consequent revision. Taken as a whole, however, they are an approximately correct view of the losses incurred. The figures represent loss in thousands of dollars.

Month Ending July 29

	Loss in Thousands of Dollars
BREMO BLUFF, VA.—Plant of Virginia Public Service Co.	350
EXETER, PA.—Breaker of Harris Denly Coal Co. destroyed	40
OXFORD, N. S.—Davis and Swan bldg., adj. property	45
CAYUGA, N. Y.—Presbyterian church damaged	35
KANSAS CITY, KAN.—Whse. of Wilson & Co., destroyed	25
W. ROXBURY, MASS.—Twenty-one dwellings in Edgmere Rd. section	80
ASTORIA, N. Y.—Business building at 31-18 Broadway	45
BOSTON, MASS.—Property of Hollywood Films, Inc	80
PADUCAH, KY.—Whse. and service station of Goodyear Service Co.	40
LAMAR, MO.—Bldg. of Stewart Motor Co., adj. property	25
BOSTON, MASS.—Hyde Park car barns destroyed	40
TOLEDO, OHIO—Big Four Lumber & Supply Co. plant destroyed	25
TRACY, IOWA—Several business buildings	25
FALL RIVER, MASS.—Two icehouses of S. LaChapelle on S. Watuppa Pond	35
NARRAGANSET, R. I.—Dwelling and garage of F. L. Hinckley	25
GERMANTOWN, OHIO—Tobacco whse. of Selby & Rittich damaged	50
MILWAUKEE, WIS.—Patton business building damaged	25
JACKSON, ORE.—Hot Springs resort destroyed	25
VALLEY SPRINGS, CAL.—Business and residential property	30
MARYSVILLE, CAL.—School building, F & 6th Sts	25
MAIDEN, N. C.—Drexel Chair factory destroyed	65
BURLINGTON, VT.—Property of J. H. Sternbergh on Lake Champlain	45
PEORIA, ILL.—Bldg. of Standard Vending Corp., adj. property	160
BRANFORD, CONN.—Hosley business block destroyed	25
NASHVILLE, TENN.—Grain elevator fo McKay-Reece & Co.	45
WACO, TEX.—Tabernacle Baptist Church, adj. property	25
DE FOREST, WIS.—Plant of De Forest Dairy Co. destroyed	25
ROCKLAND, ME.—Mill of Rockland Lime Corp. destroyed	70
MARIETTA, OHIO—Several business buildings	400
MILTON, FLA.—Krentzman Bros. dept store damaged	65
BALLSTON SPA., N. Y.—Eagle Hotel destroyed	30
BEISEKER, ALTA.—Several business establishments destroyed	45
ELLICOTTVILLE, N. Y.—Barn on Edward Moore farm destroyed	70
SAN FRANCISCO, CAL.—Factory of Wyss Mfg. Co. destroyed	80
MILWAUKEE, WIS.—Store of Kropp Specialty Co.	25
HEMPSTEAD, N. Y.—Hempstead Riding Academy, Mill Road	25
CHICAGO, ILL.—Business bldg. at 1136 Fulton St	25
NORTH WESTMINSTER, B. C.—Plant of Brunette Lumber Co.	80
NELSON, B. C.—Griffin building destroyed	45
TORONTO, ONT.—Whse. of White Wholesale Fruit Co.	25
RIVOLI, GA.—Dwelling of John H. Sherwood destroyed	25
PANGUITCH, UTAH—Camerson Service Station, adj. property	25
CINCINNATI, OHIO—Barn of E. B. Stanley destroyed	25
NEW YORK, N. Y.—Boardwalk, bath houses, adj. property, Coney Island	1,500
ELMIRA, MICH.—Five potato warehouses and railroad depot	65
MACKINAC ISLAND, MICH.—Island House Hotel destroyed	35
FORT FAIRFIELD, ME.—Property of Geo. Fess, Presque Isle	45
SEATTLE, WASH.—Pacific Coast League Baseball Park	80
CLYDE, N. Y.—Business and residential property destroyed	40
SQUIRREL ISLAND, ME.—Several summer homes destroyed	40
GALVESTON, TEX.—Davidson dept. store damaged	70
GREENSBORO, N. C.—Five stores, So. Elm St.	80
VICTORIA, B. C.—Factory of Dalziel Box Co. destroyed	50
KEARNY, N. J.—Plant of Louis Stern's Sons	125
OSHKOSH, WIS.—Trucks and sheds of C. M. Genal Trucking Co.	30
FORREST CITY, ARK.—Whse. of Forrest City Cotton Mill Co.	25
ST. LOUIS, MO.—Paint plant of Certain-Teed Products Corp.	25
BALTIMORE, MD.—Merchandise and freight cars at Clinton St. dock of Penna. R. R.	750
CLARKSVILLE, PA.—Business and residential property	40
OTTAWA, ONT.—Ottawa Amateur Athletic Club bldg.	100
WEST POINT, GA.—Moving picture theatre destroyed	25
HAVERHILL, MASS.—Two dwellings, Oak Hill Terrace	25
BIG SPRING, NEB.—Several business establishments destroyed	80
BUFFALO, N. Y.—Buffalo Sanitary Bedding Co. damaged	25
HOLYOKE, MASS.—Store of Osborne Hardware Co., High St.	50
SAUGUS, MASS.—Two barns on P. H. Spencer estate	40
PELHAM MANOR, N. Y.—South wing of Frederick Hobbes residence	30
NIAGARA FALLS, N. Y.—Office and whse. of National Grocery Co.	60
WYOMING, PA.—Residential property owned by Sobel Panaucci	25
SPOKANE, WASH.—Hangar at Felts Field damaged	40
CINCINNATI, OHIO—Residential property at 2020 Highland Ave.	25
TAMPA, FLA.—Mill property at Packwood Ave. & Horatio St.	40
LYNN, MASS.—Factory of J. S. Burnett Leather Co.	25
CAMBRIDGE, OHIO—Plant of Cambridge Milling Co.	65
WELLINGTON, KAN.—Mill and whse. of Commander-Larabee Corp.	80
CENTERVILLE, KAN.—Four business establishments destroyed	45
CALGARY, ALTA.—Empress Theatre and three stores destroyed	80
NEWTON SQUARE, PA.—Stable and horses on C. F. Henry farm	35
SAN FRANCISCO, CAL.—Property occupied by J. C. Newberry Co.	45
NEW WATERFORD, N. S.—Business property owned by Solomon Udovin	30
FAR ROCKAWAY, N. Y.—Chelsea House Hotel damaged	25
COOLIDGE, ARIZ.—Nelsen Borree Warehouse, 2 mi. west	35
CORNING, CAL.—Corning Union High School gymnasium	25
BRADDOCK, PA.—Whse. of Wilson-Snyder Mfg. Co., adj. property	65
ROBINSON, ILL.—Several business establishments destroyed	30
DAYTON, OHIO—Barn on V. E. Neal farm destroyed	25
HACKENSACK, N. J.—Distributing plant of Borden's Farm Products Co.	125
FOUNTAIN HILL, PA.—Residence of Mrs. C. H. Reidy destroyed	25
FORT DEVENS, MASS.—Barracks destroyed	25
ST. LOUIS, MO.—Property of Republic Bay Co	25
HAYES CENTER, NEB.—Post office and adj. property	80
CURTIS, NEB.—Road equipment building of Hall & Young	65
OIL CITY, PA.—Eight cottages on White Hall Campground	25
MIDDLETOWN, N. Y.—Car house of New York, Ontario & Western R. R.	50
LIGONIER, PA.—Business and residential property damaged	65
NASHUA, N. H.—Barns on Riverside Farm, C. A. Hayward, owner	45
BORDON SPRINGS, ALA.—Borden Wheeler Springs Hotel destroyed	45
BROMPTONVILLE, QUE.—Bldg. of Brompton Pulp & Paper Co.	30
BUXTON, N. DAK.—Six business buildings destroyed	40
CUMBERLAND, Va.—Cumberland Hotel, post office, adj. property	65
BROWNWOOD, TEX.—Warehouse of Renfro Drug Co.	40
VARINA, N. CAR.—Plant of Varina Knitting Mills	25
LAWRENCEVILLE, VA.—Property of Lawrenceville Motor Co.	25
WENATCHEE, WASH.—Plant of Wenatchee Packing & Provision Co.	35
LAKE HOPATCONG, N. J.—Ice house of J. Brady at Nolant's Point	25
CORTLAND, N. Y.—Thompson Boat Co. plant destroyed	80
WINCHESTER, IND.—Packing plant destroyed	30
MONTREAL, QUE.—Nunclaus garage and adjacent dwellings	25
CLAREMONT, W. VA.—Property of New River Coal Co. at Fire Creek	35
MANCHESTER, N. H.—Lake Massabesis Pavilion and adj. property	30
PAWTUCKETT, R. I.—Beswick Bldg. in business section	45
KEDGWICK, N. B., CAN.—Store of Andre Richard, barber shop, barns and dwelling	45
BRAINTREE, MASS.—Storage tank of Cities Serv. Co. & adj. bldgs.	35
SAN MATEO, CALIF.—T. P. Minnehan dairy farm damaged	45

Fire Apparatus Makes Extended Trip

Four Mack Fire Apparatus units recently delivered to Bogota, Colombia, did some extensive traveling before reaching their destination. Crated, they were taken by ship to Porto Colombia, then by rail to the City of Barranquilla. At this point they were loaded on river boats and taken up the Magdalena River to Giradot, where they were again unloaded to make the final trip by rail to Bogota, a mountain city, 8,563 feet above sea level.

Bogota's Fire Department now ranks with the best in South America. The new units are a tractor and trailer with 1,000-gallon water tank and booster pump; a hose-wagon, and two 750-gallon triple combination pumpers.

Fire Sweeps Jacksonville Lumber Yard

A four-alarm fire in Jacksonville, Fla., destroyed four million feet of cypress lumber.

Fire, which started from an unknown cause, was discovered by a plant employee. A call was phoned to the Fire Department at 2:24 p.m. As soon as Assistant Chief Hare arrived, he ordered a second alarm which brought Chief H. R. MacMillan. A strong wind was sweeping the fire fanwise and the blaze was gaining headway. A fourth-alarm was ordered and a special call was sent for additional apparatus. There were nine engine companies, two truck companies and a high pressure hose company with 125 officers and men. Steps were taken to prevent the spread of fire to two nearby lumber yards and many Negro homes. The off-shift men were also called.

During the progress of this fire, another fire was reported in a seven-story apartment in the down town section. Apparatus was dispatched from the lumber fire, and the second fire was extinguished before it gained headway.

D. G. AID.

Four Million Feet of Cypress Lumber Were Destroyed in This Fire

Frank DeVoto Appointed Chief of St. Louis

Following the vacancy caused by the death of Chief Charles Ault, of the St. Louis, Mo., Fire Department, who passed away on June 30, Deputy Chief Frank DeVoto has been appointed at the head of the fire-fighting forces of that city.

Chief Frank DeVoto

Chief DeVoto was appointed to the St. Louis Fire Department on December 1, 1903, at the age of 27 years, and was assigned to Hook and Ladder Company No. 6. His first promotion came to him on December 10, 1908, when he was advanced to Lieutenant of Engine Company No. 39 and later to Engine Company No. 6. On October 9, 1912, he was promoted from Lieutenant to Captain and was assigned to Engine Company No. 39. He also served as Captain of Engine Company No. 10. All of these assignments were in the down town or high value district of the city.

On July 16, 1918, Captain DeVoto was advanced to District Chief and placed in command of the Sixth District. Later, on January 22, 1930, he was again promoted and was made Deputy Chief of the department. His advancement to Chief of the Fire Department came to him on July 15 of this year. He is married.

Chief DeVoto has had many narrow escapes in his career as a fire fighter. He suffered a broken ankle and an injured arm in a fire in the St. Louis Athletic Club in 1914. His company on this occasion was caught by a falling wall.

District Chief F. A. Engenriether has been appointed Deputy Chief. He joined the department in 1915; was made a Lieutenant in 1922; Captain in 1926 and District Chief in 1931.

Newly Elected Chiefs

The following have been elected to head the Fire Department in the respective municipalities:

Albany, Ill.—William B. Burns.
Bound Brook, N J.—Frank Pfister.
Salisbury, Md.—William J. Downing, Jr.
Secaucus, N. J.—Charles Bildstein.
Alamogordo, N. M.—William A. Crosbey.
Smyrna, Del.—John D. Morris.
Springfield, Minn.—August Niemann.
Selden, N. Y.—John McCabe.
Renton, Wash.—Clarence Dullahant.
Holbrook, Ariz.—J. R. Howell.
Amherst, Mass.—William D. Yarter.
Greenfield, Mass.—Herbert R. Ferris.
Fennimore, Wis.—John Lomas.
Latimer, Ia.—E. Dohrmann.
Lyndhurst, N. J.—E. Bert Thomas.
Cedar Rapids, Ia.—Emil P. Kohout.
Ekalaka, Mont.—F. E. Kowitz.
Prairie Du Sac, Wis.—Walter D. Accola.
Marble Rock, Ia.—Philip Baltimore.
Laurelton, N. J.—Harry Salters.
Omro, Wis.—R. B. Locke.
Harrison, N. Y.—Michael Carroll.
Oceanside, N. Y.—John Dennis.
Seatonville, Ill.—James Carruthers.
Toronto, Ia.—Harold Willert.
Hamilton, Ohio—William Conlin.
Rutherford, N. J.—John Klemeyer.
Midland Park, N. J.—John Decker.
Chili, N. Y.—Frank W. Hawley.
Wrightstown, N. J.—Granville E. Haines.
Cedarburg, Wis.—E. E. Schneider.
Montfort, Wis.—Ernest Townsend.
Pittsville, Wis.—Nic Kleifgen.
Apalachin, N. Y.—Ed Gibson.
Adams Township, Ohio—D. M. Johnson.
Accokeek, Md.—Leonard Dyer.
Caledonia, Minn.—William L. Murphy.
Big Timber, Mont.—F. M. Ferris.
Parsippany, N. J.—William Halprin.
Annandale, N. J.—Carl Cochran.
Leland, Ia.—Otto Nolte.
Lake Linden, Mich.—Rudolph Myers.
South Bend, Wash.—Dan Coukter.
Hurffville, N. J.—Jacob Richards.
Eureka, Cal.—William P. Walker.
Pleasanton, Cal.—A. B. Pickard.
Carlstadt, N. J.—Christian Assenheimer.
Olyphant, Pa.—John Ohotnick.
Arcata, Cal.—James Wyatt.
Redding, Conn.—Arthur Burr.
Rockaway, N. J.—George Chewey.

A severe test was given Day's metal hose bridges, by the heavy traffic that passed Fire Headquarters in Orange, N. J. Chief McMillan placed a length of charged hose across the street and placed bridges over it. Loads of cracked stone weighing about twenty tons, and busses crowded with people passed over the protected hose, without any damage to the metal bridges. At a rag shop fire when the Orange Fire Department used the bridges, heavily loaded trucks passed over the hose line without any resulting injury.

Hasselhuhn Heads Volunteers

More than seven hundred persons were present at the nineteenth annual convention of the New Jersey and New York Volunteer Firemen's Association held at Fort Lee, N. J., July 16. Alexander H. Ormsby, personal representative of the New Jersey Governor, spoke at a meeting.

C. H. Hasselhuhn, former Chief of Carlstadt, was re-elected President. All other officers were re-elected to serve their second terms: They are Henry Schnakenberg, Vice-President, Rochelle Park; Charles Mortimer, Secretary, Haworth; Charles Thiel, Assistant Secretary, Ridgefield Park; Edward Christie, Financial Secretary, Ridgewood; H. Joseph Spender, Treasurer, Rochelle Park; W. G. Critchley, Assistant Treasurer, Allendale; T. V. Shuttleworth, Hillsdale, trustee for five years.

Following the meeting there was a parade and the balance of the program was held in the Palisades Amusement Park.

Portland Department Aids Legion

The Fire Department of Portland, Ore., will play an important part in the fourteenth annual convention of the American Legion which will be held in the "Rose City" in the fall. The visitors are urged to make the Portland Fire Department their headquarters and Chief Edward Grenfell is active in making preparations for the Legionnaires. Assistant Chief James Dillane has charge of all auto transportation; Capt. Ralph Schlatter is in charge of first aid details. In addition, 250 members of the Portland Fire Department who are also members of the Legion, have been detailed to personally see that the visitors are properly entertained.

Every auditorium and lodge hall is being reserved for the accommodation of the many group meetings during the convention. Automobiles of local residents have been made available for a free trip up the Columbia River Highway to Multnomah Falls.

Portland school children are now planting hundreds of thousands of roses in order to make Portland even more the "City of Roses" than it has been in the past. In mid-September when the American Legion arrives, roses will be in bloom in almost every yard and parking space in the city.

Portland is situated in a vast level valley where the Willamette River empties into the famous Columbia River. It is entirely surrounded by mountains except where the two rivers cut their way through. For background there are the snow-capped Mt. Hood, Mt. Helens and Mt. Adams.

Kohout Appointed Chief of Cedar Rapids

Emil P. Kohout has been promoted to head of the Fire Department of Cedar Rapids, Ia. He succeeds Paul F. Dolan who has retired on a pension.

Chief Emil P. Kohout

The new chief was appointed a fireman on December 1, 1918 and he served at this post until November 4, 1924 when he was appointed inspector. Chief Kohout performed the duties of inspector until he was appointed Chief on June 6.

Chief Kohout is forty-three years old and has lived all of his life in Cedar Rapids with the exception of a brief period spent at Cresco.

Chief Dolan, who retired, completed thirty-five years in the Fire Department. He was promoted to Captain on July 26, 1905, Assistant Chief on December 13, 1921 and to Chief on November 14, 1927, following the death of Chief James Kennedy.

He wrote the Commissioner, "I hereby tender my resignation as Chief of the Fire Department, the same to take effect immediately."

Riverton, R. I., is faced by a faction battle over the purchase of fire apparatus. The trouble began when the fire apparatus broke down permitting two homes and three other buildings to be destroyed.

South Carolina Firemen Meet

Firemen from all over the state gathered in Sumter, S. C., for the twenty-seventh annual convention of the South Carolina State Firemen's Convention that was held July 12 and 13. President Louis Behrens, Chief of Charleston Fire Department, presided at the meetings.

A barbecue was held the evening of the first day, followed by a boxing exhibition and a special motion picture show.

On the following day there was a parade and tournament with prizes awarded to the contest winners.

Chief Louis Behrens was elected President for the twenty-eighth time. R. S. Hood, Sumter, was elected Secretary for his twenty-eighth term. Other officers are A. McC. Marsh, Columbia, First Vice-President; H. Leland Law, Hartsville, Second Vice-President; Treasurer, T. O. Flowers, Rock Hill.

The association decided to establish a firemen's college either in Orangeburg or Clemson College. A special committee has been appointed to work out the details.

Depression Causes Increase in Indiana Fires

"The great increase of arson, fraudulent claims and suspicious fires during the last three years is a direct result of the present depression," says Alfred Hogston, State Fire Marshal of Indiana, in a report covering the activities of the Arson Division of his department from January 1 to July 1 of this year. "Statistics show that as business and property values decrease arson and fraudulent claims increase. At the present time perhaps 75% of the property in the state is over-insured. This condition coupled with the fact that few business enterprises are prospering while many are losing money, presents a grave situation."

During the period covered in the report the State Fire Marshal Department investigated 164 fires, reinvestigated 10 fires, secured 14 confessions, made 23 arrests and obtained 24 convictions.

For the first six months of 1931 the department investigated 178 cases and secured 19 convictions. Thus the department investigated 8% fewer cases during the first six months of 1932 than it did in the first six months of 1931 but obtained 26% more convictions.

Of the cases investigated the first six months of this year, 77 were rural fires, 32 being barn fires, and 87 were urban fires, 5 being for burning automobiles.

During this same period, besides convictions for arson, the department in many cases prevented the collection of padded and fraudulent claims.

Koen Appointed Chief of Salem, Mass.

James S. Koen, a member of the Salem, Mass., Fire Department for thirty-three years, has been appointed head of the department to fill the vacancy caused by the retirement of Chief Kimball in December.

Chief James S. Koen

He was born in Salem in 1876, and received his education in the public schools. In 1898, Mr. Koen joined the Police Department and served with that division for several years.

Chief Koen joined the Fire Department in 1899 as a relief driver for the summer months. In 1902 he became permanent relief driver. He was later detailed as aide to the late Chief William O. Arnold.

On June 11, 1915, Mr. Koen was appointed Captain. That same year the department was reorganized, and he was made a Lieutenant and moved back to Fire Headquarters. Nine months later he was again advanced to Captain. On April 27, 1916, Koen became Deputy Chief.

Since November 10, 1930, Chief Koen has been acting head, and on December 1, 1931, was placed in full command.

Chief Koen is President of the Massachusetts State Firemen's Association, and is a member of several firemanic organizations.

C. J. Heineman Chief of Meriden, Conn.

Effective August 1, Assistant Chief Charles J. Heineman has been promoted to head of the Meriden, Conn., Fire Department to fill the vacancy caused by the resignation of Chief J. L. Hagarty.

Chief Heineman was born in Meriden on August 24, 1868 and has lived in that city all his life. He was appointed a substitute fireman on July 1, 1890 and on May 1, 1892 was made a call man. On May 31, 1912, Heineman was made a call Lieutenant, and Assistant Chief on January 13, 1928.

Chief Hagarty who retires on a pension has been a member of the department for forty-four years.

Chief Charles J. Heineman
Photograph taken at the time he was appointed Call Lieutenant

N. J. Firemen to Meet

The fifty-fifth annual convention of the New Jersey State Firemen's Association will be held in the ball room of the Atlantic City Auditorium, Atlantic City, N. J., September 16 and 17. The Executive Committee will hold its pre-convention meeting Thursday evening, September 15, at the Hotel Dennis. Full details concerning the convention may be obtained from the Secretary, William Exall, Room 602, Chamber of Commerce Building, Newark, N. J.

CORRESPONDENCE

Speeding to Fires

To the Editor:

A headline appeared in today's paper, "Speeding fire truck overturns, killing three volunteer firemen, injuring twelve." This is the third item of this kind to come to my attention during the year. In every case a dozen or more firemen were involved in the wreck. No one can doubt the loyalty, courage and public spirited service of the men, but the wisdom of the authority which ordered or permitted so many men to ride one piece of equipment is doubtful.

It is often true, particularly in volunteer departments, and where only one piece of apparatus is in service, that the truck is overloaded as everything is carried by the one unit. Any one of six men may be called upon to drive the apparatus, and some of these men may use poor judgment as to speed or lack the ability or experience to handle such special equipment. And then to pile ten or fifteen men on the single truck is foolish, unnecessary and suicidal.

We believe we have a difficult town to handle. We must draft all water that we use from wells, cisterns or the river. Our average hose stretch is in excess of 800 feet and often reaches 1,500 feet. Our streets are unpaved, hilly and rough. We have a standing order prohibiting more than six men ever responding to an alarm on our pumper and we limit the speed to 35 miles an hour. Nevertheless in over four years, we have in every case reached a fire promptly and safely, with man-power sufficient to place one line of hose, make needed ventilation. Six men are more easily directed. Additional trained volunteers arrive on the scene immediately behind our pumper and are available if needed.

Fire apparatus is certainly liable to wreckage under the best conditions. If five or six men can efficiently operate it, why risk the lives of twelve.

Not so long ago, a truck responding to a grass fire carried seven men to their deaths while traveling at 60 miles an hour. Chiefs, particularly in volunteer departments, should figure out the minimum number of men needed to handle the average call and permit only that number to ride on the single truck. Additional trained men should be available.

We find under such policy we have fewer men to care for, fewer broken windows, smaller water damage, and at the

same time, the property owner and the insurance company has less to pay.

Yours very truly,

GEORGE H. NEFF,
Chief, Grafton, Ill.

Damage Caused by Fire Extinguishers

To the Editor:

In a recent issue of FIRE ENGINEERING, in reply to some Chief, who had asked if the contents of a soda-acid extinguisher would damage anything, the answer was that it would, which is true in many cases. But in the "Underwriters" brand extinguisher which we manufacture, the chemical charge is so manipulated that when the extinguisher is in operation the acid is completely neutralized, and the discharge from this machine will do no more harm upon that material upon which the stream is played, than the same amount of water.

Previous to the Laboratories taking on the labeling and inspection of these devices, the "Underwriters" was accepted for use by more than fifty different Boards of Underwriters and insurance organizations throughout the United States.

Yours truly,

KNIGHT & THOMAS, Inc.

Advice for Self-Improvement

To the Editor:

The following message is hung on the walls of our fire station. If reproduced in your magazine, it may encourage firemen of your country to take a further interest in their duties and work:

"Any man who will set aside an hour each day for reading and studying, which puts him in contact with the thoughts, knowledge and experiences of abler men, will more than make up for the hour he gives.

"By enlisting in his work the ideas and experiences of many capable men, he will be better able to carry out his duties and responsibilities and his work will be easier by reason of his greater knowledge and study.

"Have you ever seriously and thoroughly analyzed your work and duties with the firm conviction that there is some way in which your methods can be improved?

"What ideas for improvement have come to you?

"As the man on the job, you are in the best position to say if it can be improved. Analyze your work and methods, think of your duties and responsibilities and send your ideas in writing to the Chief Officer. The mental exercise will give you a keener interest in your job.

"Did you ever stop to think of any suggestion or invention that you could make to the Chief Officer that could improve the efficiency of the Fire Brigade in general, or fire prevention? If so, what is it? Suggestions are always welcome. The Chief Officer will accord it sympathetic consideration and careful investigation. If your suggestion of invention has possibilities of application, it will be placed before the Fire Brigade Board for further reference."

Very truly yours,
A. CUSHMAN,
Second Office, Fire Brigade, Hughenden,
North Queensland, Australia.

Airplane Delivers Fire Film "Flames" to Knoxville, Tenn.

The illustration above shows the delivery by an airplane of the film of the moving picture "Flames," which was sent direct from Hollywood, Cal., to Knoxville, Tenn., Fire Department Benefit Association, on June 27. The plane was met at the Knoxville Municipal Airport by a detachment of the Fire Department. From L. to R., in the picture are Walter C. Anderson, Knoxville, Director of Public Safety; Captain J. A. Weil, Fire Prevention Bureau; the pilot of the plane delivering the film to Chief C. M. Johnson, of Knoxville; Mrs. Saidenburg; Mr. Saidenburg, Manager of the Strand Theatre, where the film was shown; Fireman F. E. Boatman; Captain H. E. Gallahar; Firemen W. A. Fischer and Roy Connor. The film, which was shown for the first time in Knoxville to crowded houses, according to Chief Johnson, "gives a true picture of the life and work of firemen. It is true the picture has a sentimental side, carrying a love scene, but as to what actually happens at fires it is not greatly, if at all, overdrawn."

Two Little Girls Operate Aerial

At the recent Newport convention of the New England Chiefs, Walter Zimmer, Mack demonstrator, made a great hit with the younger generation when he allowed them to operate the raising and lower mechanism of the big aerial ladder. His plan was to take up his position on the ground where he could give the child directions, so that the audience received the impression that the youngster was operating the ladder unaided.

One little boy of five, showed particular aptitude for this job. His skill attracted so much attention among the Chiefs and the general public of Northport that Mr. Zimmer was fairly besieged with requests from the young folks.

The news spread, the papers took it up and on the last morning of the convention, Mr. Zimmer was signally honored. A private car with chauffeur and footman in uniform, pulled up alongside the big aerial ladder truck. The footman sprang out, opened the door and out stepped two little girls about five and seven, and a French nurse, also in uniform. Up stepped the French nurse and informed Mr. Zimmer that her employer had instructed her to bring the children to the exhibit to "operate the aerial ladder."

Although a little awed by this show of wealth, Mr. Zimmer preserved a calm exterior and sent the little girls, one at a time to the platform to raise and lower the big ladder.

The nurse expressed her employer's thanks, the footman opened the car door, the nurse loaded her charges and her dignified self in the car, the footman closed the door and off they went.

Crane Pressure Calculator

Chief E. F. Coop of Pasadena, Cal., and another member of the fire service have developed the Crane Pressure Calculator for informing the pump operator of the correct pressure required for various hose layouts and nozzle sizes. The device, for which a patent is pending, is made in a number of styles to meet special requirements.

Several western cities have already installed the calculators on their pumpers. It is being marketed by the Crane Pressure Calculator Company, 324 N. Los Robles Ave., Pasadena, Cal.

Crane Pressure Regulator

Fire Destroys R. R. Shed

For the second time within seven months, fire visited the Ontario & Western Railroad yards in Middletown, N. Y., and destroyed a carshed. One theory is that an acetylene torch had started the fire.

A westerly wind blew the flames toward the shop office building and to the roof of the general machine shop. Shop employees and spectators pushed three box cars out of reach of the flames while locomotives hauled other strings of cars from the vicinity. During the fire an acetylene tank exploded but no one was injured.

Portsmouth, Ohio, has received a Seagrave pumper.

East Bridgewater, Mass., is considering the purchase of fire apparatus to replace a unit that was disabled.

Plans are being made in Titusville, Pa., to consolidate all the fire houses into one.

The last old style Excelsior fire alarm box in the city of Putnam, Conn., according to Charles T. Thayer, Superintendent of Fire Alarm, was recently replaced with a new Gamewell Peerless 3-fold box, thus completing the program of replacing old boxes, so that the Superintendent now has 100 per cent modern succession boxes throughout the city. This, it is said, will make Putnam one of the first cities in New England to accomplish such a turnover. Superintendent Thayer also recently arranged for the County Home for Children and St. Mary's School in his city to install modern master boxes with remote control stations throughout each building.

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When you use a Smith INDIAN Fire Pump you use the most up-to-date, portable fire extinguisher available. Constructed according to the ideas of foremost authorities on grass, brush, forest, roof and spot fires, it comes in handy again and again.

Although the INDIAN is low priced it is sturdily constructed throughout. The extra heavy gauge tank will never break or leak and is the only satisfactory method of transporting water on operator's back.

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Truck carrying racks which bolt firmly to running board or floor of truck are available at slight extra cost. Bright red in color, and with strong, tan, webbing straps, they make the entire outfit look neat and business like. Send for folder showing Indians in operation and telling what users think of them.

COMBINATION BRASS NOZZLE FOR 50 FOOT STREAM OR LONG COARSE SPRAY
NEW COMBINATION HANDLE FOR CARRYING TANK AND FOR HOLDING PUMP
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STRONG AND DURABLE
TANK MAY BE CARRIED IN THE HAND OR ON THE BACK
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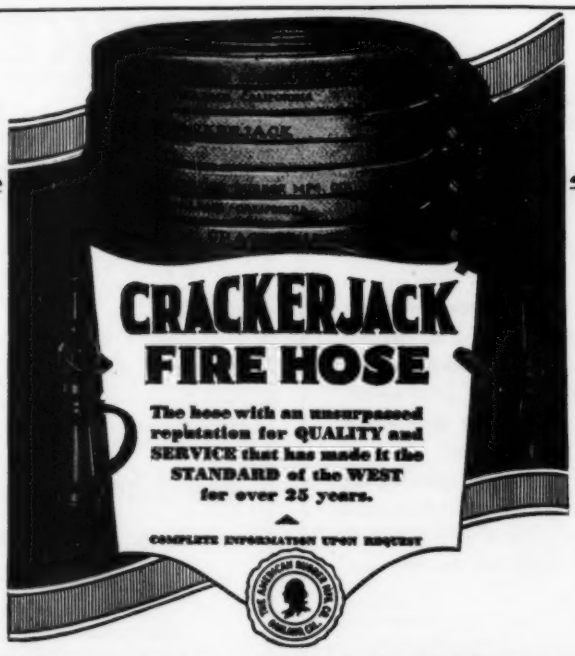
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THE FIGHTING OF FIRES WHICH INVOLVE CHEMICAL HAZARDS

This Instalment Deals with Poisonous Gases, Explosive Gases and Other Types

By Lionel K. Arnold
Assistant Chemical Engineer, Engineering Experiment Station, and
Lindon J. Murphy
Municipal Engineer, Engineering Extension Service, Iowa State College

For the accompanying article, the seventh installment of which is published herewith, FIRE ENGINEERING *is indebted to the Official Publication of the Iowa State College of Agriculture and Mechanic Arts, it being comprised in Bulletin No. 9, Engineering Extension Service:*

Poisonous Gases (Continued)

Hydrogen Cyanide (Hydrocyanic Acid Gas), is colorless, inflammable gas lighter than air and having the odor of oil of bitter almonds. It is used as an insecticide and in fumigating buildings. It is frequently made as needed or may be shipped in cylinders. It is similar in first symptoms of poisoning to carbon monoxide and is exceedingly poisonous. Being lighter than air it tends to diffuse upward, being for this reason somewhat less dangerous than the heavier gases. Leaking cylinders should be disposed of as directed for carbon monoxide.

Phosgene, $COCl_2$, is a colorless, very poisonous gas heavier than air. It is formed when carbon tetrachloride (Pyrene) is used to extinguish fires in confined places and is sold in cylinders for chemical uses, mainly in dye works. The action of phosgene is similar to nitrous oxide fumes, 25 parts per million being dangerous even for a short exposure. Leaking cylinders should if possible be plugged and hauled to a dump.

Methyl Chloride, is a moderately flammable gas shipped in cylinders and used in household electric refrigerators. It is very poisonous.

Explosive Gases

Acetylene, is a colorless, odorless, inflammable gas which forms highly explosive mixtures with a wide range of air ratios. Acetylene may be produced where used by the action of water on calcium carbide. It is more frequently shipped in cylinders dissolved under pressure in acetone. It has anesthetic and asphyxiant properties. Under ordinary fire conditions, however, the hazard is primarily that of fire and explosion.

Acetylene is used for welding and lighting. It is commonly used in cylinders in machine shops, metal working factories, garages, and in all places where welding is done.

Hydrogen, is a colorless, odorless, flammable gas lighter than air and explosive over quite a range of mixtures with air. It is made by electrolysis, as a by-product of certain fermentation processes, and by chemical processes such as the reaction of steam and hot coke. It is used for welding, filling balloons, in hardening of vegetable oils, and in the manufacture of various chemicals. Where used in small quantities such as for welding, it is frequently bought and stored in cylinders. It is not poisonous.

Ethylene is a colorless gas with characteristic sweet odor and taste. It is flammable and is shipped in steel cylinders. It is used in welding, in medicine, and for ripening citrous fruits. It has an anaesthetic action so that care should be taken not to breathe large quantities.

Compressed Cooking Gases. Gases in cylinders for home cooking and lighting use are marketed under several trade names. These are mainly propane and butane compressed into liquid form. They are similar to very volatile gasoline. Sometimes they are distributed in drums. These liquified gases are all highly explosive resembling high test gasolines and napthas.

Carbon Monoxide in addition to being poisonous is very explosive.

Ethyl Chloride is a colorless and highly inflammable gas used in medicine and dentistry as a local anaesthetic, as a solvent, and in household electric refrigerators. It is shipped in cylinders.

Ethylene Chloride (dichloroethane) and Ethylene Dichloride. These are light inflammable liquids going over to gases at ordinary temperature. They are used in cleaning and fumigating and are commonly shipped in drums. They are somewhat poisonous.

Other Gases

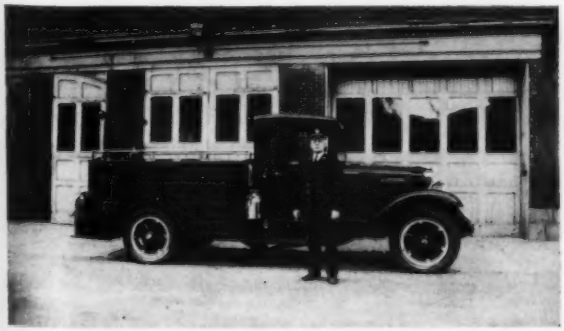
Oxygen is a colorless, odorless gas commonly sold compressed in cylinders. It is ordinarily used with acetylene or hydrogen in welding. Oxygen itself is not flammable or explosive but it rapidly increases the combustion of combustible materials. Materials which under conditions of an ordinary fire would not burn readily may do so in the presence of oxygen. Other materials, such as oils and fats, which under ordinary conditions burn quietly, may become explosive in contact with oxygen. Oxygen should not be stored with combustible materials. In case of fire it should be removed if possible. Oxygen presents no health hazard except that if excessive amounts are breathed it increases the body metabolism to an undesirable extent. Leaking tanks need merely to be removed from the fire and allowed to empty into the air.

Carbon Dioxide is a colorless, odorless gas which is heavier than air. It is not flammable or explosive and may be used in place of water in fire fighting. It is sold compressed in cylinders and used in refrigerating outfits, in soda fountains, and in bottling works. Cylinders of carbon dioxide, like any compressed gas, may explode under fire conditions due to increased pressure caused by the heat. Leakage of carbon dioxide into the fire will aid in extinguishing it. Due to its specific gravity it flows downward like water. It is not harmful unless breathed in high concentrations where it is harmful largely because it displaces part of the oxygen in the air.

Nitrogen is a colorless, odorless gas sometimes sold in cylinders mainly for laboratory use. As a fire hazard it has much the same characteristics as carbon dioxide, except that it has about the same density as air. Air is about 79 per cent nitrogen.

Helium is a colorless, odorless gas lighter than air, used in place of hydrogen in dirigibles. As a fire hazard it compares with carbon dioxide or nitrogen.

(To be continued)



Salvage Truck in Use in Easton, Pa.

A special body mounted on an International 1½-ton chassis, has been designed by Chief Louis A. Davidson of Easton, Pa., and was built by him during his spare time. It is a salvage truck and carries besides the covers, a first aid kit and special tools. There are special drawers for each appliance and tool. Chief Davison is standing in front of the truck.

Methyl Bromide Used to Fight Fires

Methyl bromide gas has been developed by an English company to fight fires and it has been successful in extinguishing carbon disulphide, ether, hydrogen, calcium carbide and other fires.

The gas is marketed in liquid form and there is some loss of the gas in making it change to the liquid state.

Tests have proven that the gas is about twenty-five times as effective as carbon tetrachloride and that it is safe to use on electrical fires. Methyl bromide vaporizes rapidly upon contact with heat and it is non-corrosive. Neither has it a toxic effect on the fire-fighter, according to tests carried on by Sir Leonard Hill.

A central fire station of Tudor design has been formally dedicated at Sea Cliff, N. Y. It was erected at a cost of $60,000.

Chicago Exposition Places Hydrant Order

An order has been placed with the Kennedy Valve Manufacturing Company, Elmira, N. Y., for fire hydrants and valves that will form part of the elaborate fire protection and water supply system for the Century of Progress Exposition, Chicago, to be opened next year.

About one hundred Safetop hydrants will be required. The hydrants are to have a six-inch bell connection to the mains with five feet depth of trench. Each hydrant is to have a 5¼-inch inlet valve, two 2½-inch hose nozzles and one steamer nozzle. Over 250 iron body water gate and check valves will be required, ranging in size from 5-inch to 24-inch. The valves are for 150-pound working pressure, flanged and bell ends, with most of the larger valves furnished with by-pass.

When completed, the fire protection system for the exposition will comprise three fully equipped fire stations with a group of pumping plants and an automatic alarm system in the buildings and around the grounds. Each building is to have standpipes with hose connections and water for the system will be drawn from Lake Michigan and the lagoon between the mainland and Northerly Island on which many of the buildings are to be located. The fire protection system will also have the cooperation of the Chicago Fire Department.

New York Underground Exits Listed

Fire Chief John J. McElligott has issued to the uniformed force of the Fire Department a complete list of the location of all emergency exits from the underground rapid transit systems of the city of which there are 507 on all the subway systems.

The bulletin containing the information was issued in anticipation of the approach of the reported opening of service on the city's new independent subway system, the date of which has as yet not been definitely fixed.

Of the 507 emergency exits from the underground railroads the city's new system has 206, the Interborough system has 183, the B. M. T. system has 114, the Pennsylvania R. R., three and the Long Island R. R., one.

The city's new subway system has 52 emergency exits along the Eighth Avenue line, 22 on the Concourse in the Bronx, 17 are planned for the 6th Avenue line when built, three on the 53rd Street crosstown, 19 on the Smith Street line in Brooklyn, 13 on the Fulton Street line, 28 on the Brooklyn crosstown and 52 on the Queens Boulevard line.

The emergency exits are located along the structure between stations. They are locked down, but pressure of the hand or body against "panic bolts" releases the sidewalk hatch cover and the hatch automatically opens up. Crews of the Fire Department rescue squads and the Police department emergency squads carry keys with which the exits can be opened from the sidewalk in order to gain entrance to the structure.

WM. JEROME DALY.

Rain Extinguishes 48-Hour Forest Fire

A providential rain that fell over the lower section of Connecticut on July 22 extinguished what was developing to be one of the most raging forest fires in the history of that state when Southington Mountain, a few miles east of Waterbury, Conn., was on fire for 48 hours. Hundreds of acres of valuable timber were destroyed.

Fire-fighters attached to the State Forest Department, and also the local firemen, worked valiantly to extinguish the blaze but it was miles from the nearest water source, and a road had to be cut through the woods to enable trucks carrying water to approach the scene of the fire.

The start of this fire was blamed upon a cigarette butt tossed from a passenger airplane passing over Southington Mountain. How the forest rangers knew this to be the cause is hard to determine. Probably it is just theory. But if it is a correct theory, it exposes a new menace. Hitherto the rangers have had to watch the roadsides with hawklike eyes because of the public's habit of tossing lighted cigar and cigarette butts from passing motor vehicles. Many bad blazes have been started in this manner.

In the case of the Southington Mountain fire, the fact that the blaze started in the midst of an almost inaccessible forest, far removed from any road or footpath, gave credence to the theory that it was started in the manner described. The New York-Boston air lines pass directly over the mountain.

THOMAS F. MAGNER.

Ex-Chief Magee of Dallas, Tex., Dead

Hugh F. Magee, formerly Chief of the Dallas, Tex., Fire Department and a former President of the International Association of Fire Chiefs, died at his home at the age of seventy-one, as the result of diseased kidneys.

He became ill seven weeks prior to his death and was taken to a local hospital where two operations were performed. During a two-week's rest period at his home, apparently much improved, he contracted pneumonia.

Chief Magee was born in Mississippi but came to Dallas forty-five years ago. He joined the Fire Department in 1892 and became Chief six years later. Chief Magee retired in 1919 to enter the real estate business. He was Secretary-Treasurer of the Dallas Realty & Loan Company.

Mr. Magee was a life member of the Southwestern Chiefs' Association and of the Woodmen of the World. He is survived by his widow, three daughters, a sister and three brothers.

Poughkeepsie Zone School Ends

Chief Chris Noll of Poughkeepsie, N. Y., presented certificates to the ones who completed the fourth firemen's training school course. He received a large easy chair from the firemen who attended the school as appreciation for his efforts and the time given them.

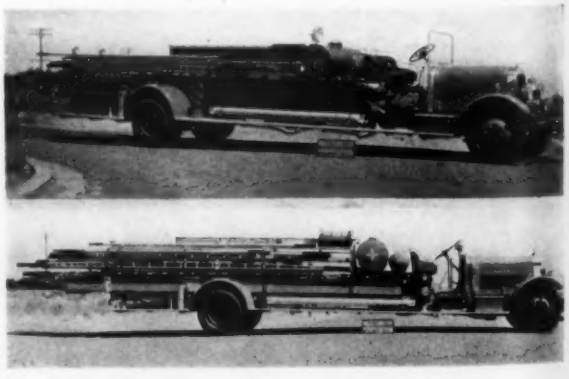
Firemen from Brewster won the Schrauth's cup at the closing exercise of the school. Other awards were made at the ceremonies. Two hundred firemen took the course.

A Fire Extinguisher for Residences

According to the statistics of the National Board of Fire Underwriters, two thirds of all fires start in private houses. As there are about 260,000 fires a year in the United States alone, there are 140,000 houses endangered or destroyed by fire every twelve months, together with an appalling list of dead and injured. And yet, with the exception of an occasional fire extinguisher, no fire protection is provided in the vast majority of dwellings.

After tests and examinations extending over nearly three years, Underwriters' Laboratories has approved and listed an automatic fire alarm designed expressly for the home, a device made by the Fire-Cry Company, Dayton, Ohio, with a gong that can be heard for a hundred yards, operated by a fuse, on the same principle as an automatic sprinkler.

Assistant Chief Vance H. Smith of the Lockport, Tex., Fire Department died while playing night ball. He had been a member of the department since it was reorganized in 1921. Chief Smith also organized a firemen's band. He was forty-eight years old and is survived by his widow and a son.



New Four Way Pumpers for Ames, Ia., and Fond du Lac, Wis.

The cities of Ames, Ia., and Fond du Lac, Wis., recently each received a Pirsch four way pumper, shown above. The upper illustration shows the apparatus delivered to Ames and the lower that for Fond du Lac. In each case the pumper is of the 750-gal. class, and is equipped with hose boxes capable of carrying 500 feet of hose on each side. The booster tanks have capacities of 100 gals. of water each. There is the usual complement of ladders and other equipment on each truck.

Suburban and Forest Fire Service
Ranger-Special Water Bag Hand Pump

Long life assured.

No breakage or corrosion.

Will not succumb to atmospheric influences.

Among other advantages the "RANGER-SPECIAL" Knapsack is light in weight and gives "CUSHION COMFORT" which means conservation of energy and a better job done.

Can be carried on Fire truck filled. Shoots powerful 60-foot stream.

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Chief of Fire Dept.
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"May I have eight more of your folders 154-R-1. They are just what I have been looking for to use during Fire Prevention Week at the grade schools to show the children what we mean by the salvage method used by our department. We have twelve of your standard SHUREDRY covers in service, and our next order will be for SHUREDRY GREEN-BAK, as they don't show the dirt so plainly as do our white ones. But at that, we would not sell them back to you for three times their cost if we could not get them replaced."

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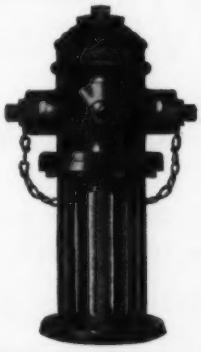

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Powerful — Instant Response — Penetrating

Produce more sound and cost less than ordinary alarms. Many sizes to solve any requirements. One community saved $788 in operating expense only by using Cooper Alarm.

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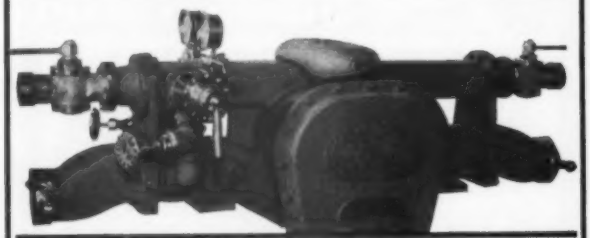

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Fire Chief

Have several years experience, am capable of handling medium size department, 38 years of age, married. Have held highest office in State Associations. Prefer place somewhere in South. Can furnish A1 references. Address: Box 660, c/o FIRE ENGINEERING, 24 W. 40th St., New York. 7-8

Driver

For the past five years connected with fire department driving and Ahrens-Fox machine. Willing to take position in any location. Best of references available. Address: Box 645 c/o FIRE ENGINEERING, 24 W. 40th St., New York.

Apparatus Driver

Desires position driving apparatus. Experienced with America-LaFrance and Seagrave machines. Best of references can be furnished. Address: Box 655, c/o FIRE ENGINEERING, 24 W. 40th St., New York. 7-8

Fire Chief or Inspector

Retired fireman desires position as Fire Chief or Fire Inspector in the United States or Canada. Thirty-one years in service of Fire Department of Detroit. Seven years as Battalion Chief. Highest of references. Address: Box 665, c/o FIRE ENGINEERING, 24 W. 40th St., New York City. 8-9

PROPOSED IMPROVEMENTS

Wilmington, Del.—Fire Chief William J. Lutz, in annual report recommended that 500 new fire alarm boxes be installed in city, that new fire alarm station be placed in the 9th ward, that members of Bureau of fire be provided with new uniforms, that two automobiles be purchased for use of the Assistant Chief Engineers, that horns or bells be placed at street intersections where traffic is heavy for purpose of warning that fire apparatus is approaching, and that an emergency outfit for the injured be added for the fire equipment.

Monterey, Cal.—Definite action on purchase of a ladder truck for fire department has been promised by city council at once.

Geistown, Pa.—Geistown Volunteer Fire Co. interested in securing new fire apparatus for the department, according to reports. Robert Schuller, Pres.

Chicago, Ill.—City to let contract shortly for construction of fire station on South Chicago ave.

CONVENTION DATES

Aug. 8-11—TEXAS FIREMEN'S TRAINING SCHOOL. 3rd Annual School, Texas A. & M. College, College Station, Tex. Director, Prof. H. R. Brayton, Dept. of Chemistry and Chemical Engineering, College.

Aug. 9-11—MISSOURI ASSOCIATION OF FIRE FIGHTERS. 8th Annual Convention, Marquette Hotel, St. Louis, Mo. Secretary, M. J. Mulvoy, 3500 So. Grand Boulevard, St. Louis.

Aug. 9-11—WISCONSIN PAID FIREMEN'S ASSOCIATION. 25th Annual Convention, Janesville, Wis. Secretary-Treasurer, Asst. Chief William H. Schultz, Sheboygan, Wis.

Aug. 9-12—CUMBERLAND VALLEY VOLUNTEER FIREMEN'S ASSOCIATION. 32nd Annual Convention, Alexandria, Va. Secretary, C. L. Jacobs, Waynesboro, Pa.

Aug. 10-12—VIRGINIA STATE FIREMEN'S ASSOCIATION. 46th Annual Convention, and Tournament, Alexandra, Va. Annual Convention, State Fire Chiefs' Association. Secretary, O. W. Dabney, Staunton, Va.

Aug. 11—STATE FIRE CHIEFS' ASSOCIATION OF VIRGINIA. Annual Convention, Alexandria, Va. Secretary-Treasurer, E. H. Rouse, Orange, Va.

Aug. 12—SOUTHWESTERN WASHINGTON FIREMEN'S ASSOCIATION. Meeting, South Bend, Wash. Secretary, Elmer Salmi, Aberdeen, Wash.

Aug. 16-19—FIREMEN'S ASSOCIATION OF THE STATE OF NEW YORK. 60th Annual Convention, Lake Placid, N. Y. Secretary, Fred A. Davis, Fort Edward, N. Y.

Aug. 17-18—CENTRAL PENNSYLVANIA VOLUNTEER FIREMEN'S ASSOCIATION. Annual Convention, Phlipsburg, Pa.

Aug. 19-20—CONNECTICUT STATE FIREMEN'S ASSOCIATION. 49th Annual Convention, Broad Street School Auditorium, Pawcatuck, Conn. Secretary, D. W. Harford, 10 Chestnut Street, So. Norwalk, Conn.

Aug. 19-20—WEST VIRGINIA VOLUNTEER FIREMEN'S ASSOCIATION. Annual Convention, Keyser, W. Va. Secretary, T. F. Vernon, Keyser.

Aug. 22-25—MONTANA STATE FIREMEN'S ASSOCIATION. 41st Annual Convention and 2nd Firemen's Short Course, Billings, Mont. Secretary-Treasurer, D. E. Moser, Billings, Mont.

Aug. 25-27—WASHINGTON STATE FIREMEN'S ASSOCIATION. 10th Annual Convention and Fire College, Yakima, Wash. Secretary, H. S. Jenkins, Fire Department, Bellingham, Wash.

Aug. 28-30—NEW YORK STATE PERMANENT FIREMEN'S ASSOCIATION. 14th Annual Convention, Oneonta, N. Y. Secretary-Treasurer, Frank A. Emden, 1403 Mather Ave., Utica, N. Y.

Aug. 31—SUFFOLK COUNTY VOLUNTEER FIREMEN'S ASSOCIATION. Annual Tournament, Bayport, N. Y. Secretary, J. Fred. Flugrath, Rockville Center, N. Y.

Sept. 6-8—KENTUCKY FIREMEN'S ASSOCIATION. 13th Annual Convention, Corbin, Ky. Secretary, Capt. S. G. Render, 940 Starks Bldg., Louisville, Ky.

Sept. 6-8—MARYLAND SHORT COURSE FOR FIREMEN. 3rd Annual Course, Engineering College, University of Maryland, College Park, Md. Address, Dean A. N. Johnson, College of Engineering, at the University.

Sept. 6-8—MASSACHUSETTS STATE FIREMEN'S ASSOCIATION. 53rd Annual Convention, Springfield, Mass. Secretary, Daniel J. Looney, 448 Old South Bldg., Boston, Mass.

Sept. 8-10—LOUISIANA STATE FIREMEN'S ASSOCIATION. 27th Annual Convention, Lafayette, La. Secretary, Chief A. J. Bethancourt, Houma, La.

Sept. 13-15—ILLINOIS FIREMEN'S ASSOCIATION. 45th Annual Convention, Orlando Hotel, Decatur, Ill. Secretary, Asst. Chief Roy W. Alsip, Fire Department, Champaign, Ill.

Sept. 14-15—WISCONSIN STATE FIRE CHIEFS' ASSOCIATION. 4th Annual Convention, Appleton, Wis. Secretary, Chief Arthur J. Rahn, Two Rivers, Wis.

Sept. 16—NEW JERSEY STATE FIRE CHIEFS' ASSOCIATION. Annual Convention, Atlantic City, N. J. Secretary, Fred A. Trowbridge, Morristown, N. J.

Sept. 16-17—NEW JERSEY STATE FIREMEN'S ASSOCIATION. 55th Annual Convention, Atlantic City, N. J. Secretary, William Exall, 602 Chamber of Commerce Bldg., Newark, N. J.

Sept. 19-21—ARKANSAS STATE FIREMEN'S ASSOCIATION. 11th Annual Convention and Fire College, El Dorado, Ark. Secretary-Treasurer, H. D. Compton, Little Rock, Ark.

Sept. 19-23—OHIO FIRE SCHOOL. 3d Annual Fire School, Ohio State University, Columbus. Director, Harvey Walker, Dept. of Political Science, State University.

Sept. 20-21—IOWA FIREMEN'S ASSOCIATION. 55th Annual Convention, Chariton, Ia. Secretary, Paul A. Soener, Independence, Ia.

Sept. 21-22—NEW CASTLE COUNTY FIREMEN'S ASSOCIATION, Annual Convention, Wilmington, Del.

Sept. 21-22—DELAWARE VOLUNTEER FIREMEN'S ASSOCIATION. 12th Annual Convention, Wilmington, Del. Secretary, Sam H. Carson, Dover, Del.

Oct. 4-6—FIREMEN'S ASSOCIATION OF THE STATE OF PENNSYLVANIA. 53rd Annual Convention, Lancaster, Pa. Secretary, Charles E. Clark, Wayne, Pa.

Oct. 6-8—TENNESSEE FIREMEN'S ASSOCIATION. 2nd Annual Convention, Knoxville, Tenn. Secretary-Treasurer, Joe J. Martin, Fire Department, Nashville, Tenn.

Oct. 18-19—RAILWAY FIRE PROTECTION ASSOCIATION. 19th Annual Convention, Cleveland, Ohio. Secretary-Treasurer, R. R. Hackett, 601 Baltimore & Ohio Bldg., Baltimore, Md.

Oct. 18-20—NEBRASKA STATE VOLUNTEER FIREMEN'S ASSOCIATION. 50th Annual Convention, Falls City, Neb. Secretary-Treasurer, Fred. W. Muller, Norfolk, Neb.

Oct. 18-21—INTERNATIONAL ASSOCIATION OF FIRE CHIEFS. 60th Annual Convention, San Diego, Cal. Convention Headquarters, U. S. Grant Hotel; Meeting and Exhibits, San Diego Municipal Pier. Secretary-Treasurer, Ex-Chief James J. Mulcahey, 16 Franklin Avenue, Yonkers, N. Y.; Executive Secretary, Jay W. Stevens, 1014 Merchants' Exchange Bldg., San Francisco, Cal.; Chairman, Exhibit Committee, Chief, W. S. Minter, Long Beach, Cal.

Oct. 18-21—MISSOURI VALLEY ASSOCIATION OF FIRE CHIEFS. Annual Convention during Convention of International Association of Fire Chiefs, San Diego, Cal. (Exact date not set.) Secretary-Treasurer, Chief Ray Tiller, Waterloo, Ia.

Oct. 10-12—SOUTHWESTERN ASSOCIATION OF FIRE CHIEFS. 5th Annual Convention, to be held at Houston, Tex. Secretary-Treasurer, J. F. Taplin, Blackwell, Okla.

May, 1933—DEL-MAR-VA VOLUNTEER FIREMEN'S ASSOCIATION. 4th Annual Convention, Easton, Md. (Exact date to be decided later.) Secretary, A. C. Bailey, Laurel, Del.

June, 1933—KANSAS STATE FIRE CHIEFS' AND FIREMEN'S ASSOCIATIONS. Conventions to be held at Wichita, during month of June. Also during June Associations will conduct ten one-day fire schools in ten different towns; first one in Seneca, Kan. Secretary, Chief K. D. Doyle, Wamego, Kan.

June, 1933—NORTH DAKOTA FIREMEN'S ASSOCIATION. 49th Annual Convention, Carrington, N. Dak. (Exact date to be decided later). Secretary, H. L. Reade, Bismarck, N. D.

July, 1933—WEST VIRGINIA STATE FIRE CHIEFS' ASSOCIATION. 2nd Annual Convention, Morgantown, W. Va. (Exact date to be decided later). Secretary, Chief C. J. Powell, Romney, W. Va.

July 18-19, 1933—MARITIME FIRE CHIEFS' ASSOCIATION. 19th Annual Convention, Digby, N. S., Can. Secretary-Treasurer, Captain Kenneth J. MacRae, Puggsley Bldg., St. John, N. B.

Department and Other Reports Received

Denver, Col.—Annual report of the Denver, Col., Fire Department, illustrated, forty pages and cover.

Westbury, L. I., N. Y.—Special Historical Reminiscence of fhe Westbury Fire Department issued at the time of dedication of new fire station; illustrated.

Indiana Department of Trade and Commerce—Fourteenth annual report of the Indiana Department of Trade and Commerce, Division of Fire Prevention; fourteen pages and cover.

Dominion Association of Fire Chiefs—Proceedings of the Twenty-Third Annual Convention of the Dominion Association of Fire Chiefs, Shawinigan Falls, Que., Canada; illustrated, 188 pages and cover.

Pacific Coast Association of Fire Chiefs—Proceedings of the Thirty-Seventh and Thirty-Eighth annual conventions of the Pacific Coast Association of Fire Chiefs; illustrated, 392 pages and cover.

FALSE ALARMS

Drawing by "Art" Espey

Officer: Follow this line back, son, and tell the Captain to change that tip to an inch and a quarter. He's got an awful weak stream.

HE REMEMBERED

A mother was very much surprised to hear her son use a swear word. She asked:

"Whoever taught you to use that dreadful word?"

"Santa Claus," answered the boy.

The mother was puzzled.

"That's right, Ma," he continued, "when I was down the fire house Christmas, Santa Claus came down the shining pole and he fell. That's when I heard him."

Pity the poor taxpayer—he doesn't know where the tax money is coming from or where it is going to.

FREAK OF NATURE

He had attended the department's annual smoker and had had a most enjoyable time. A professional entertainer had presented a most amusing riddle. So when one fireman reached home and found his wife awake, he asked excitedly, "Why am I like a mule?"

His wife answered, "I know you are, but I don't know why."

MADE NO SENSE

The applicant for the Fire Department was being subjected to the standard physical examination required of all candidates. His eyes were being tested.

The oculist pointed to the letters NPRTVZBDFH on the chart and said, "Read that line."

The applicant squinted a number of times, rubbed his chin and then shook his head.

"What's the matter?" asked the examiner. "Can't you read letters that size?"

"Yes, I can see them all right, but hanged if I can pronounce the word."

NO RHYME OR REASON

John was a close neighbor to McNulty and both were members of Engine 12. One evening while John was resting home during off shift, his wife was surprised to see him rushing around looking for his coat.

"What's the matter?" she asked.

"That fellow McNulty just telephoned to ask if I can lend him a corkscrew."

"Well, what do you want your coat for? Surely, there's no need to go out. You can send Junior with it."

John turned upon his wife more in sorrow than in anger:

"My dear, your last remarks sum up the whole reason why women cannot lead armies, control nations or take anything but a subordinate part in the affairs of the world."

CHIEF LOCKED OUT

Chief Leonard, of Taunton, Mass., during the many years that he has served, has had occasion to rescue treed cats, open locked doors and to perform other things besides fighting fires. He attended the annual Fire Department memorial services and then came face to face with a peculiar situation, when he returned home. His house was locked and his keys were in a suit hanging in his closet. Firemen succeeded in gaining entrance and brought out the forgotten keys.

SIGNS NOT TRUE

Many out-of-town fire fighters pass part of their vacation in New York City so that they can study the methods employed by the New York Fire Department. One such visitor became so enraptured with the wonders of the city, that he failed to realize that he entered a subway station with a lighted cigar in his hand.

A platform guard came over to him and said:

"Can't you see the sign says 'No Smoking'?"

The visitor answered:

"Sure, Buddy, that's plain enough. But there are so many dippy signs here. One says, 'Wear Nemo Corsets,' so I ain't paying any attention to any of them."

MASSIVE OMELET

A Kansas farmer driving to market with a truckful of eggs valued at seven cents a dozen, discovered his car was on fire. He extinguished the blaze by throwing eggs at the fire. The eggs extinguished the blaze, produced a large mass of scrambled or baked eggs and created a car-washing job that is not to be under-estimated.

And now it appears that the sun tan bathing suits have been taking ten per cent cuts, too.

LONG LIFE

Some salesmen have a solution for all of the problems they encounter while trying to sell.

"Madam," said a salesman, "this fire extinguisher is guaranteed to give you service for fifty years."

The elderly lady objected, "But I shan't be here all that time."

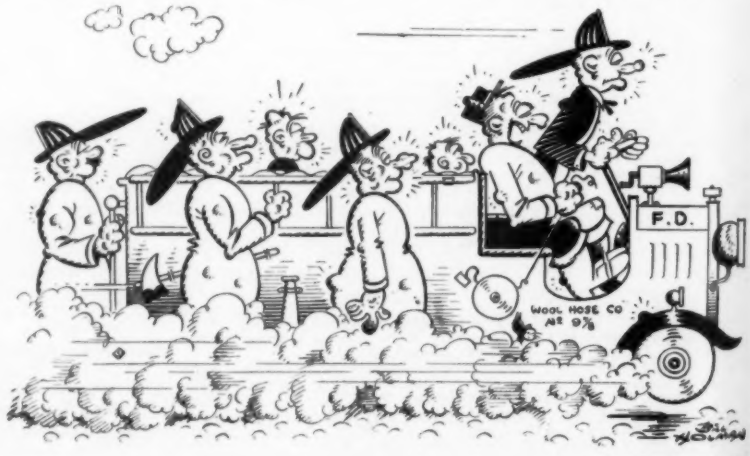
Misunderstanding her meaning, the salesman replied, "Oh, but you can take it with you when you go."

BETTER PRACTICE

A number of the officers were discussing Fire Department practice and methods to be followed when dealing with firemen.

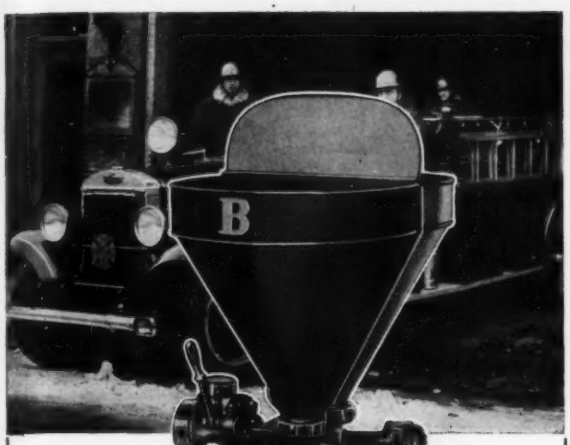
One remarked, "I never send a subordinate off on a fool's errand."

And in a jiffy came the answer, "No, it's much better to go yourself."



Courtesy, Judge

Fire Chief: This is the last time that we answer an alarm at a bee farm.



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Write for new general catalogue

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Why ruin your hose by driving over it? Or waste valuable time cutting off and disconnecting?

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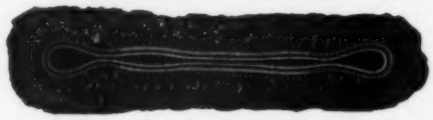

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90 Shirts, Firemen's Special
91 Sirens, Apparatus & Chiefs' Cars
92 Sliding Poles
93 Soda & Acid Chemicals
94 Spark Plugs, Fire Apparatus and Motorcycles
95 Squad and other Auxiliary Cars
96 Sprinkler Head Shut-Offs
97 Sprinkler Supervisory Service
98 Sprinkler Systems, Automatic, Foam
99 Sprinkler Systems, Automatic, Water
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101 Syphons, Water
102 Tarpaulins & Fire Blankets
103 Tetrachloride Chemicals
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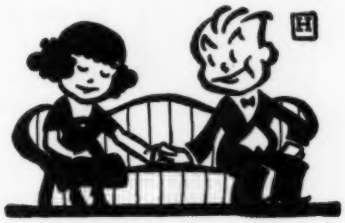
105 Tires, Fire Apparatus, Pneumatic, Solid, Cushion and Non-Skid
106 Tractors
107 Traffic Clearing Systems
108 Triple Combination Pumping Cars
109 Uniforms
110 Water Towers
111 Wheels, Cushion
112 Whistles, Fire Alarm, Compressed Air
113 Whistles, Fire Alarm, Steam
114 Whistles, Fire Apparatus
115 Wrecking Trucks



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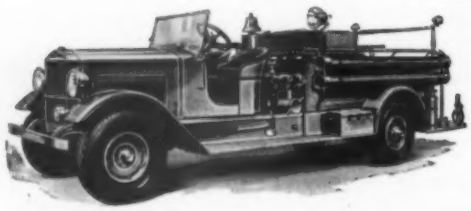

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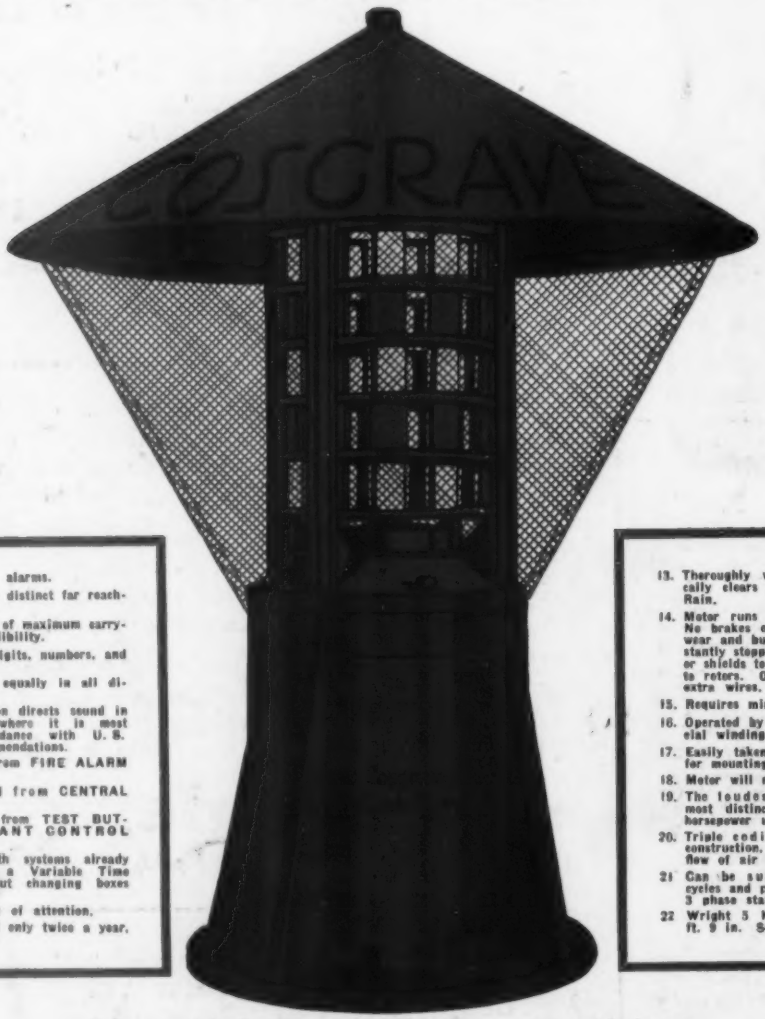
THE COSGRAVE SIREN IS THE LAST WORD IN CLEAR, SHARP, RAPID CODE FAR REACHING FIRE ALARM

THE fact that the COSGRAVE SIREN has shown decided superiority over all other fire sirens in many competitive tests is reason enough for your installing one in your city or town; you need the best.

Here are 22 reasons for the superiority of the COSGRAVE SIREN—check them against the claims of the signal you have or contemplate buying; if the other signal doesn't do as much as ours, get in touch with us and ACTUALLY JUDGE FOR YOURSELF!



1. Locates as well as alarms.
2. Codes short, sharp, distinct far reaching signals.
3. Codes at the pitch of maximum carrying power and audibility.
4. Clearly separates digits, numbers, and rounds of signal.
5. Alarm distributed equally in all directions.
6. Vertical construction directs sound in horizontal plane where it is most effective in accordance with U. S. Government recommendations.
7. Can be operated from FIRE ALARM BOX.
8. Can be operated from CENTRAL TRANSMITTER.
9. Can be operated from TEST BUTTONS or DISTANT CONTROL BUTTONS.
10. Can be used with systems already installed through a Variable Time Transformer without changing boxes or equipment.
11. Requires minimum of attention.
12. Lubrication needed only twice a year, Spring and Fall.

13. Thoroughly weatherproofed. Automatically clears itself of Snow, Sleet or Rain.
14. Motor runs continually when coding. No brakes or reversing of current to wear and burn out the motor by constantly stopping and starting. No caps or shields to stop and start air supply to rotors. One simple operation. No extra wires.
15. Requires minimum of mounting space.
16. Operated by standard motor. No special windings.
17. Easily taken apart when necessary for mounting or inspection.
18. Motor will not overheat.
19. The loudest, farthest carrying and most distinctive siren made for the horsepower used.
20. Triple coding head, multiple-series construction, continuous uni-directional flow of air while coding.
21. Can be supplied for all voltages, cycles and phases. 220 volt, 60 cycle, 3 phase standard.
22. Wright 5 H.P. 770 lbs. Height 5 ft. 9 in. Solid, Rugged and Lasting.

Every municipality having a volunteer or part paid department or men on call needs a COSGRAVE CODE SIREN. Write us and we will be pleased to see that you get all the information necessary to the selection of the world's finest siren —whether you figure on installing one now or a year from now.

THE COSGRAVE COMPANY

LYONS AVE. & COIT ST. IRVINGTON, N. J.